

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☒

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

P. O. Box 2920 Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface 2130' FSL, 2100' FEL (NWSE)

At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 17 miles North of Montezuma Creek, Utah

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 2130' North of lease line

16. NO. OF ACRES IN LEASE

1320 Acres

17. NO. OF ACRES ASSIGNED TO THIS WELL

160 Acres

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1st well on lease

19. PROPOSED DEPTH

6400'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5064 Ungraded Ground

22. APPROX. DATE WORK WILL START\*

1st Quarter 1986

23.

PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE  | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT                   |
|---------------|----------------|-----------------|---------------|--------------------------------------|
| 17-1/2"       | 13-3/8"        | 48#             | 100'          | 180 cu. ft (Circ to Surface-150 sx   |
| 12-1/4"       | 9-5/8"         | 36#             | 1600'         | 1200 cu. ft (Circ to Surface-1035 sx |
| 7-7/8"-8-3/8" | 7"             | 23# & 26#       | 6400'         | 1430 cu. ft (TOC Approx 2000'-1212 s |

Drill and test a 6400 ft Pennsylvanian Exploratory well. Zones to be evaluated for possible production are the Pennsylvanian U. Ismay, L. Ismay, and the Desert Creek; BOP's will be inspected and operated daily, and pressure tested weekly.

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 12/20/85  
BY: John R. Bays  
WELL SPACING: 302

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

D. C. Gill

TITLE

Area Manager

DATE

December 3, 1985

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

COMPANY PHILLIPS PETROLEUM COMPANY

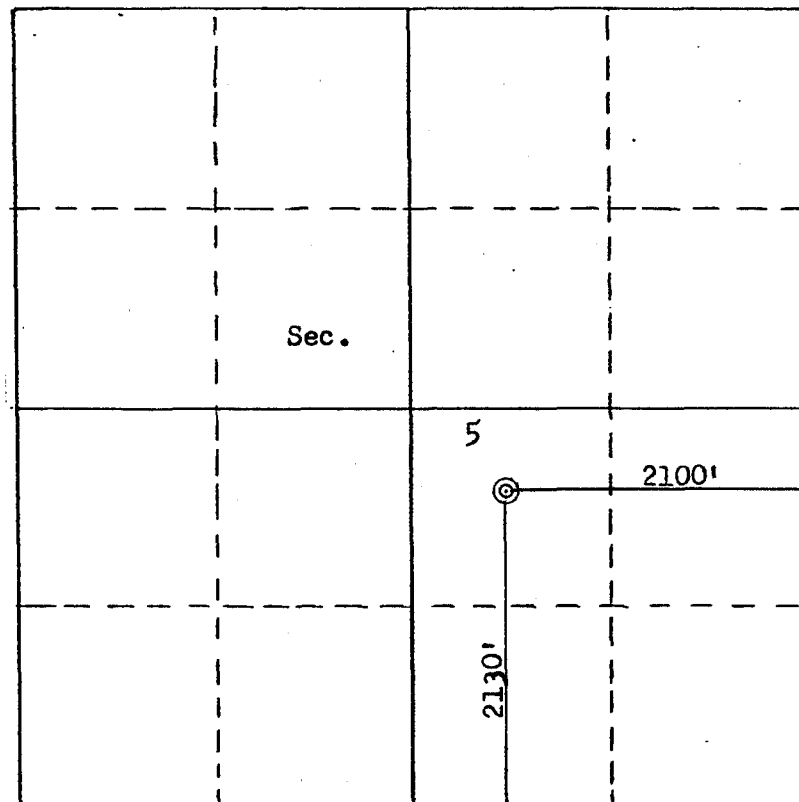
LEASE ALKALI CREEK-FEDERAL WELL NO. 1-5

SEC. 5, T. 39S, R. 24E

County: San Juan State: Utah

LOCATION 2130'FSL 2100'FEL

ELEVATION 5064 ungraded ground



SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF

SEAL:

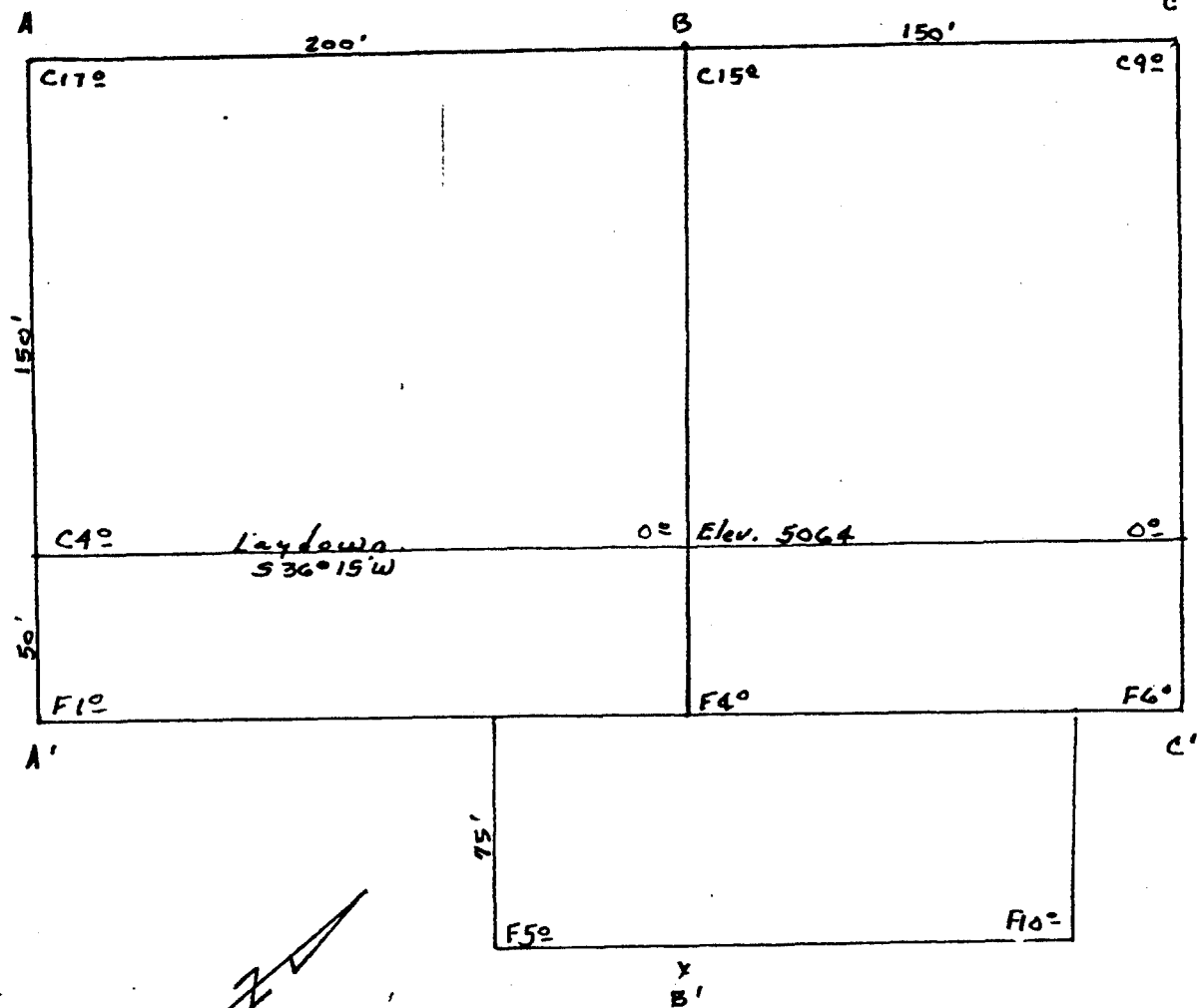


SURVEYED

October 30

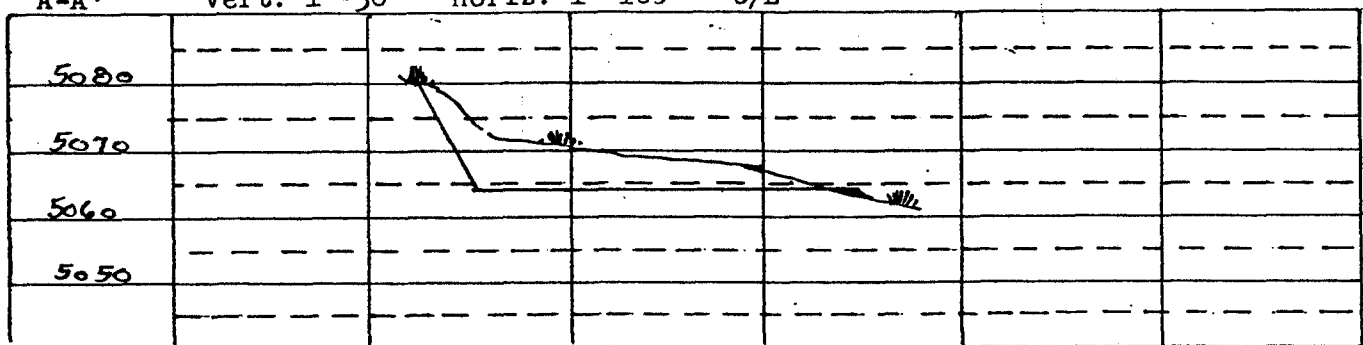
1985

Profile for  
 PHILLIPS PETROLEUM CO. #1-5 ALKALI CREEK-FEDERAL  
 2130 L 2100' FEL Sec. 5-T39S-R24E SAN JUAN COUNTY, UTAH

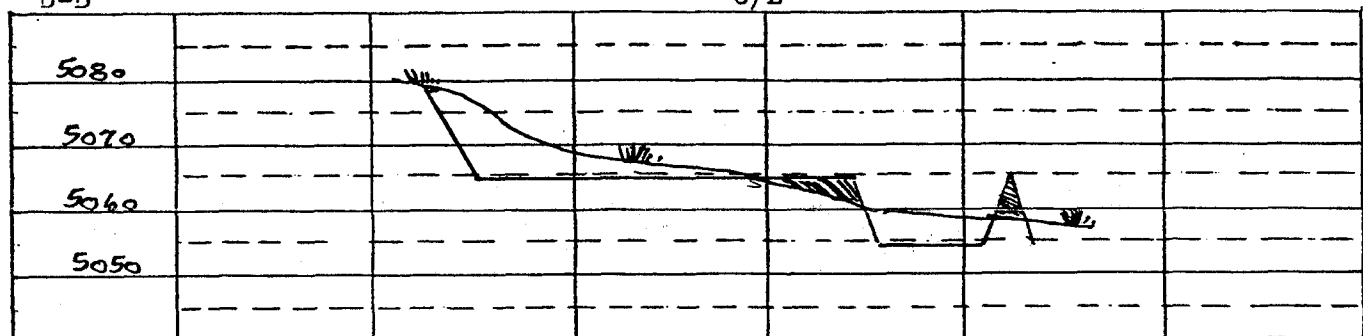


Scale: 1" = 60'

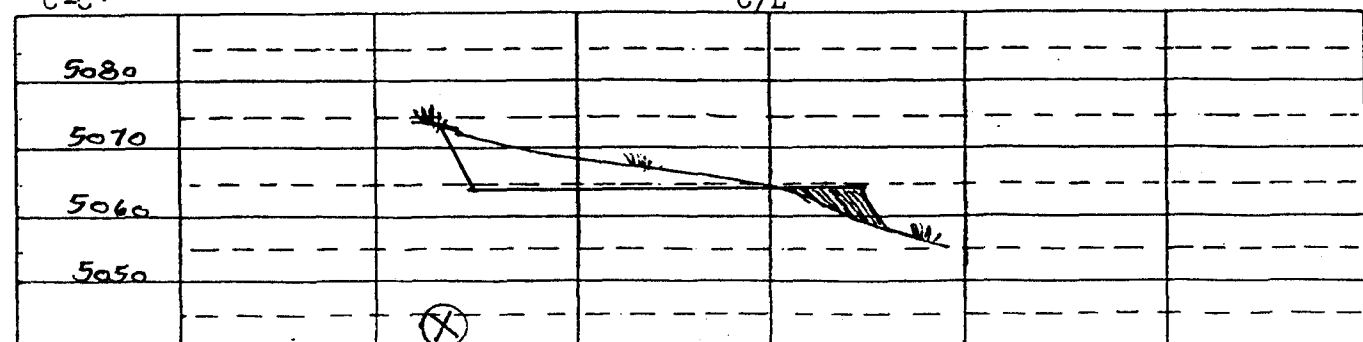
A-A' Vert: 1"=30' Horiz: 1"=100' C/L



B-B' C/L



C-C' C/L



ALKALI CREEK FEDERAL #1-5  
NWSE Sec. 5-T39S-R24E  
San Juan County, Utah

Supplement to Form 9-331C "Application for permit to drill, deepen, or plug back".

DRILLING PROGRAM

1. Surface Formation: Jurassic Morrison  
Estimated Formation Tops:

|             |       |              |       |
|-------------|-------|--------------|-------|
| Summerville | 940'  | Moenkopi     | 3075' |
| Entrada     | 1000' | Cutler       | 3095' |
| Carmel      | 1285' | DeChelly     | 3300' |
| Navajo      | 1325' | Hermosa      | 5060' |
| Kayenta     | 1830' | U. Ismay     | 5900' |
| Wingate     | 1945' | L. Ismay     | 6040' |
| Chinle      | 2225' | Desert Creek | 6145' |
| Shinarump   | 2875' | Akak Salt    | 6255' |

2. Brackish water - bearing sands are expected in the Navajo, Wingate, Shinarump and DeChelly formations. Oil is expected to be encountered in the Upper and Lower Ismay formations and in the Desert Creek formation. All potential hydrocarbon zones will be covered with cement. The top of cement is anticipated to be at 2000'.
3. Blow-out preventers will be 10" series 900 equipment to be tested initially to 3000 psi. They will be inspected and operated daily, and pressure tested weekly to 1500 psi. Weekly pressure tests will be supervised by representatives of Phillips Petroleum Company and the drilling contractor. Tests will be recorded on the Daily Drilling Report which will remain on the rig floor during drilling operations.

BOP tests will be conducted in accordance with Phillips' standards, copy attached.

4a. Proposed Casing Program:

1. Conductor Casing:  
100' 13-3/8" 48#/ft H-40 ST&C New
2. Surface Casing:  
1600' 9-5/8" 36#/ft K-55 ST&C New  
Surface casing will be tested to 1000 psi before drilling out.
3. Production Casing:  
6400' 7" 23 & 26#/ft K-55 ST&C New  
Production Casing will be tested to 1500 psi.

b. Proposed Cementing Program:

1. Conductor Casing:  
Conductor casing will be cemented with 150 sks of Class "B" cement, cement will be brought to surface.
2. Surface Casing:  
Surface casing will be cemented with 560 sks "light" cement followed with 457 sks Class B cement. Cement will be brought to surface.

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3. Production Casing:

Production casing will be cemented with "light" cement followed with Class B cement. For cement volume, caliper will be used with 15% excess. The top of cement is estimated to be at approximately 2000 ft.

All potential hydrocarbon zones will be covered with cement.

c. Auxilliary Equipment:

Auxilliary equipment will include upper and lower Kelly cocks, a drill string safety valve, and a pit level indicator.

5. Drilling Fluid:

Drilling fluid will be a fresh water based mud system. Spud mud is gel and water with a weight of 8.4-8.8 ppg. From surface to approximately 2000', gel and water will be used. Mud weight maybe up to 9 ppg to control water flow from the Wingate formation. A slurry of 8.6 - 9.5 ppg 32-38 viscosity and less than 15cc/30 min. water loss will be used from 2000' - 6000'. Mud weight may be increased to 10.4 ppg if a water flow is encountered and from 6000' to total depth, mud properties will be 10.5 - 12.5 ppg, 40-45 viscosity, and below 10cc water loss.

Adequate quantities of mud material will be stored at the location to equal the volume of the rigs complete circulating system. A flow sensor will be used.

6. Testing, Logging, and Coring:

Coring and Testing: We anticipate 1 core (+ 30 ft) and 1 DST in the Lower Ismay Formation 6040' - 6110' (gross) and anticipate 1 core (+ 30 ft) and 1 DST in the Desert Creek formation 6145'-6230' (gross) It is possible to have 1 DST in the Upper Ismay.

Sampling Program:

30' samples - surface csg to 5000'  
10' samples - 5000' to T.D.

Logging Program: 1) DIL, SP, GR, CAL, LSS - TD to surface csg.  
2) LDT/CAL,GR,SP,CAL-TD to surface csg.  
3) LSS, GR-TD to surface csg.  
4) ML, GR - to Top Ismay from TD (Min.)  
5) VSP - TD to 3000'.

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7. Downhole Conditions:  
No abnormal pressures, temperatures, or hydrogen sulfide gas are anticipated.
8. Additional Information:  
Phillips anticipates starting operations as soon as BLM approval is secured.

#### Cultural Resources Report

Complete Archaeology Services Associated out of Cortez, Colorado has prepared a Cultural Resource Inventory of the subject wellsite. A copy of the report has been sent to the BIA office in Window Rock, Arizona, and to the BLM office in Farmington, NM.

#### Surface Use Program

1. Existing Roads
  - A. The Alkali Creek Federal #1-5 well will be located approximately 17 miles north of Montezuma Creek, Utah in Sec. 5-T39S-R24E.
  - B. The existing roads will be maintained in the same or better condition during the duration of this project.
  - C. Refer to attached access & vicinity map for road information.
2. Access Roads  
Planned upgrading of the existing access road is shown on the attached schematic drawing. The existing portion of the required access road will be bladed and not more than 20 ft wide. That portion of the access which must be constructed will be graded consistent with that of local terrain. Drainage facilities may include ditches, culverts, or any other measures deemed necessary to insure proper drainage.
3. Location of existing wells  
Location of existing wells are shown on the attached map.
4. Proposed facilities  
The production facilities for the Alkali Creek Federal #1-5 will be at the well location as shown on the attached production facilities layout.
5. Water Supply
  - a). The source of water for drilling the subject well will be the San Juan River.
  - b). The required water will be trucked from the River to the location.
  - c). A water supply well will not be drilled on the site.

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6. Construction Materials
  - a). Only native soils will be used for construction of the wellsite and access road.
  - b). Pit run rock will be used on the wellsite and access road where needed.
  - c). The above materials are owned by the Navajo Tribe.
7. Waste Disposal
  - a) Cuttings: Cuttings and drilling fluids will be contained in a fenced reserve pit until dry enough to cover. Upon abandonment, the reserve pit area will be backfilled, reshaped to natural topography, and seeded.
  - b) Garbage/trash: All garbage and trash will be put in a burn pit, which will be fenced on four sides. After the burn pit is no longer in use, the trash and garbage will be covered with a minimum of four feet of fill.
  - c) Salt: No salts are anticipated on this well. If salt is present, it will be disposed of in the reserve pit.
  - d) Chemicals will be disposed of in the reserve pit.
  - e) Sewage: Dry chemical toilets will be used.
8. Ancillary Facilities


No ancillary facilities are required.
9. Well Site Layout
  - a) Refer to attached rig layout plat.
  - b) There are no plans to line the reserve pit unless porous soils are encountered during pit construction.
10. Surface Reclamation Plan
  - a) Construction Program: A cross section of the drill site showing cuts and fills is attached.
  - b) Well Abandonment: All disturbed areas will be reshaped to the natural topography and seeded in accordance with BLM/BIA requirements.
  - c) Producing Well: Those areas not needed for production purposes will be recontoured to the surrounding topography. Seeding will be in accordance with BLM/BIA requirements.
  - d) Pipelines and Flowlines: Flowlines will be above ground and will be visible from the well access road.
  - e) Rehabilitation will begin as soon as possible, considering weather and other factors, and proceed per recommendations of the BLM/BIA. The reserve pit will be backfilled when dry.

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11. Surface Ownership: The wellsite location and access road are on the Navajo Indian Reservation. One dwelling is located approximately 3/4 of a mile away from the proposed location.
12. Other information: The reserve pit will be lined only if required, based on types of subsoil material encountered during construction. During drilling operations the reserve pit will be fenced on three sides. Once the rig is moved out, the fourth side will be fenced.
13. Operator's Representative and Certification:
  - a. Field Representative:

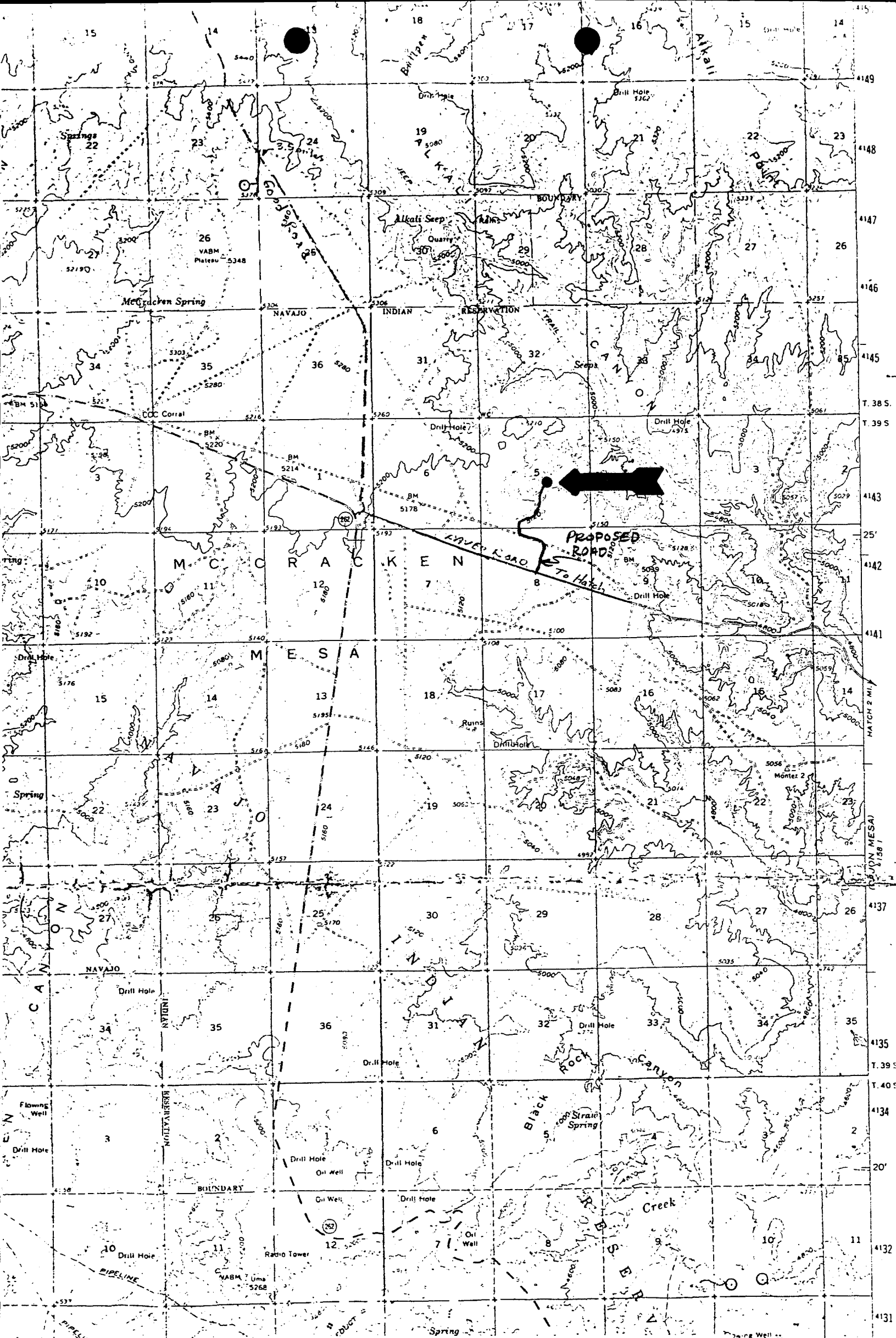
D. C. Gill  
P. O. Box 2920  
Casper, WY 82602  
307-237-3791

I hereby certify that I or persons under my direct supervision have inspected the proposed drill site and access route; and I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Phillips Petroleum Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of the 18 U.S.C. 1001 for the filing of a false statement.

  
\_\_\_\_\_  
D. C. Gill  
Area Manager

DATE

Dec 11, 1985



Vicinity Map for  
PHILLIPS PETROLEUM COMPANY #1-5 ALKALI CREEK-FEDERAL  
2130'FSL 2100'FEL Sec. 5-T39S-R24E  
SAN JUAN COUNTY, UTAH

24E

38S

39S

19

25

31

24

30

36

6

7

18

19

1


12

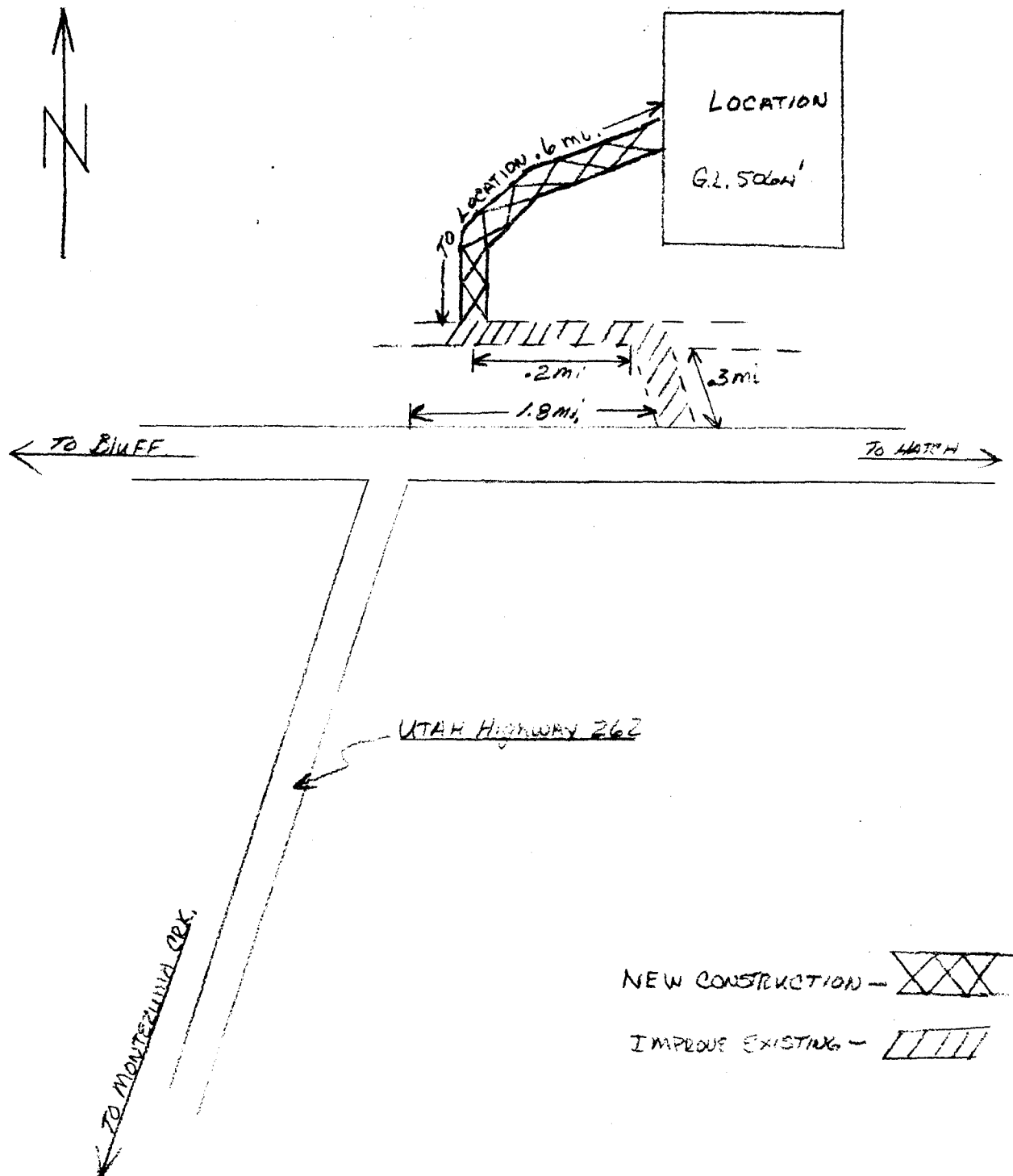
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24

Proposed  
LOCATION

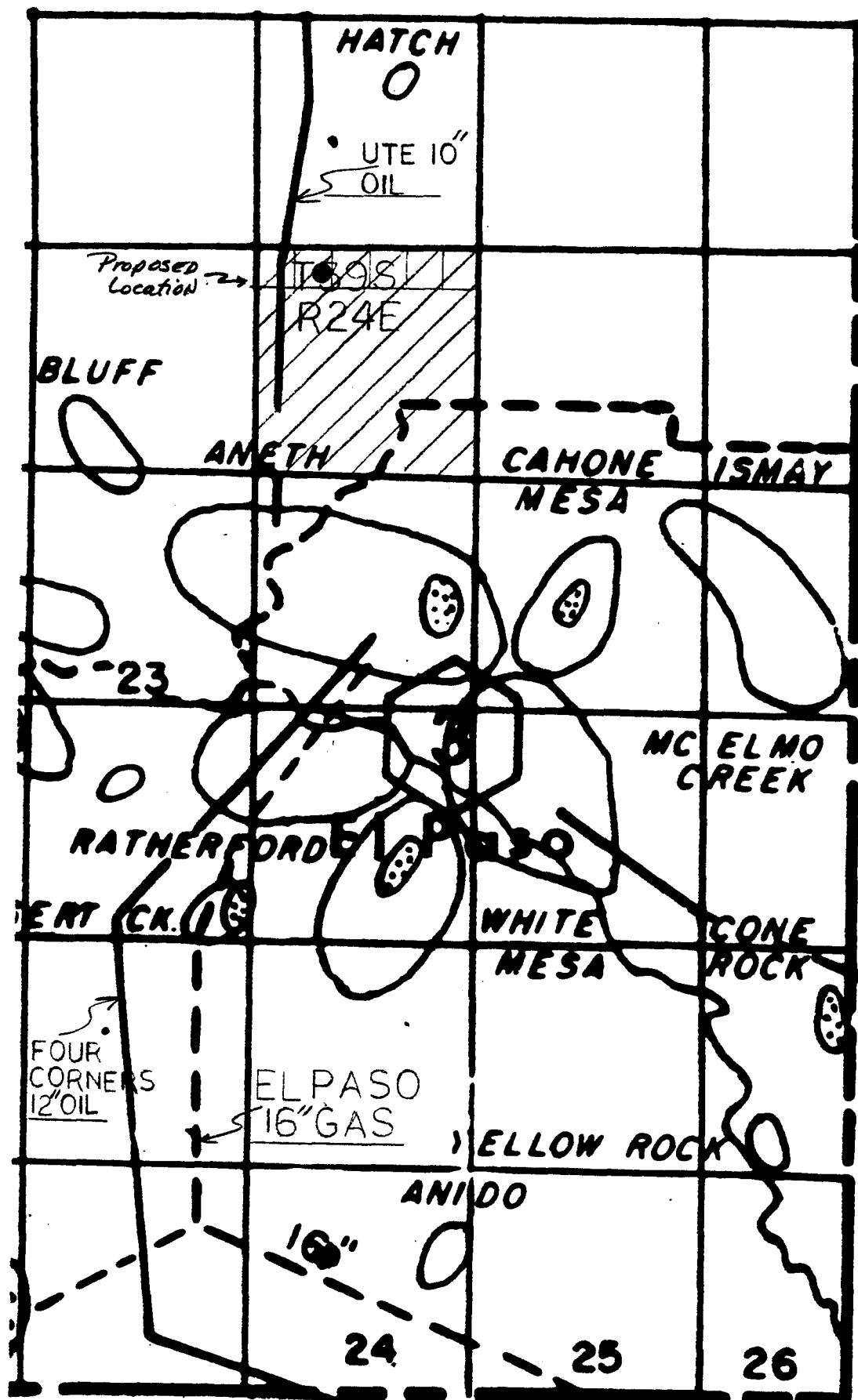
● EXISTING WELLS

|                  |              |   |  |    |      |         |       |           |  |
|------------------|--------------|---|--|----|------|---------|-------|-----------|--|
| NO.              |              | REVISION  |  | BY | DATE | CHKD    | APP'D |           |  |
| FOR BIDS         |              |  <b>PHILLIPS PETROLEUM COMPANY</b><br>BARTLESVILLE, OKLAHOMA |  |    |      | JA NO.  |       | FILE CODE |  |
| FOR APPR         |              |   |  |    |      | AFE NO. |       | SCALE     |  |
| FOR CONST        |              | Phillips Petroleum<br>ALKALI CREEK FEDERAL #1-5<br>NWSE SEC 5-T39N-R24E<br>SAN JUAN County, Utah  |  |    |      | DWG NO. |       | SH NO.    |  |
| DRAWN <i>PCT</i> | <i>12/15</i> |   |  |    |      |         |       |           |  |
| CHECKED          |              |   |  |    |      |         |       |           |  |
| APP'D            |              |   |  |    |      |         |       |           |  |



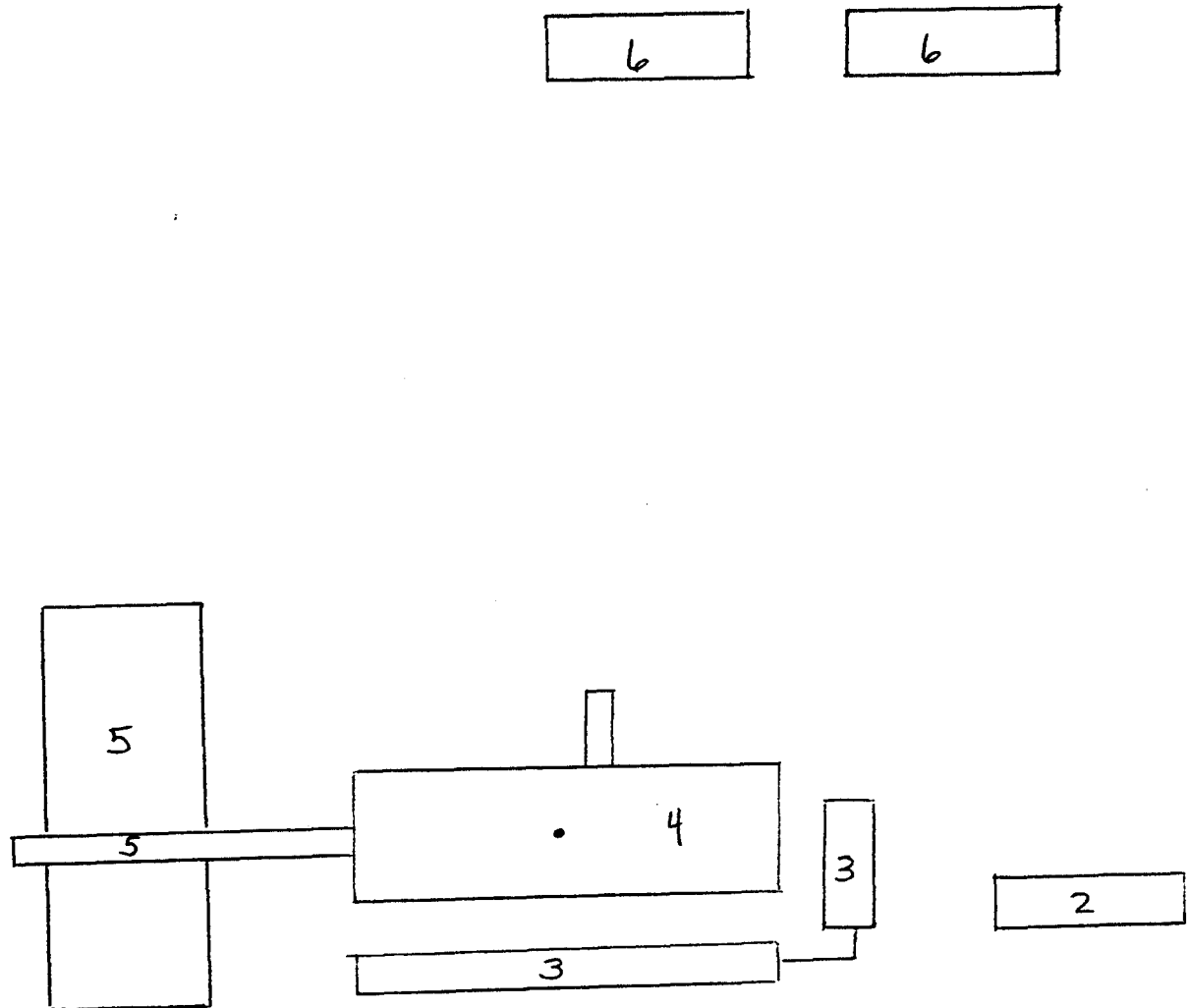
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|------------------|---|---------|---------------|------|-------|
| NO.              | REVISION  | BY      | DATE          | CHKD | APP'D |
| FOR BIDS         | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <b>PHILLIPS PETROLEUM COMPANY</b><br/>             BARTLESVILLE, OKLAHOMA           </div> <div style="text-align: center;">  </div> </div> | JA NO.  | FILE CODE     |      |       |
| FOR APPR         |   | AFE NO. | SCALE<br>NONE |      |       |
| FOR CONST        |   | DWG NO. | SH NO.        |      |       |
| DRAWN D.J. Housy | <b>SCHEMATIC DRAWING</b><br><b>ALKALI CREEK FEDERAL #1-5</b><br><b>NWSE SEC 5, T39S, R24E</b><br><b>SAN JUAN COUNTY, UTAH</b>   |         |               |      |       |
| CHECKED          |   |         |               |      |       |
| APP'D            |   |         |               |      |       |

GASOLINE



EXISTING OIL/GAS LINES

Phillips Petroleum Co.  
Alkan Creek Federal 1-5  
NWSE Sec 5-T39S-E24E  
SAN JUAN County, Utah

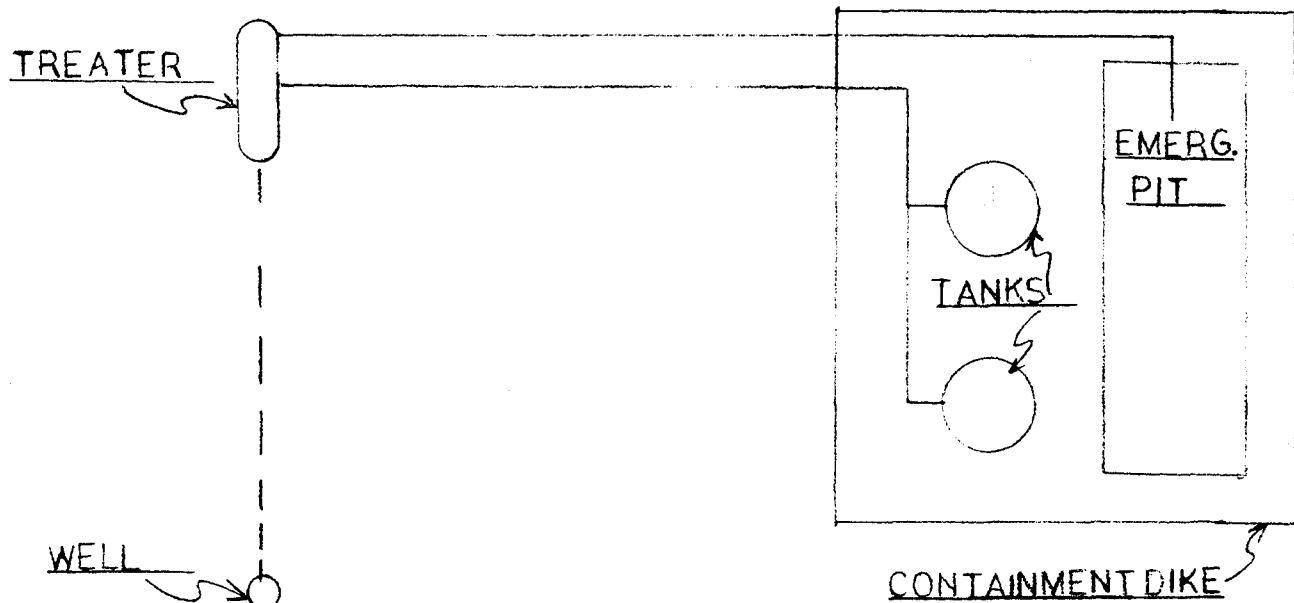




1. RESERVE PIT
2. TRASH PIT
3. CIR. PITS + PUMP
4. RIG
5. CAT WALK + PIPE RACKS
6. TRAILERS



### DRILLING RIG LAYOUT

Outline of location Approximately 300' x 350'  
NO SCALE



|                    |   |    |      |         |               |
|--------------------|---|----|------|---------|---------------|
| NO.                | REVISION  | BY | DATE | CHKD    | APP'D         |
| FOR BIDS           | <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <br/> <b>PHILLIPS PETROLEUM COMPANY</b><br/>             BARTLESVILLE, OKLAHOMA           </div> <div style="text-align: center;">  </div> </div> |    |      | JA NO.  | FILE CODE     |
| FOR APPR           |   |    |      | AFE NO. | SCALE<br>NONE |
| FOR CONST          | <b>PRODUCTION FACILITY<br/>ALKALI CREEK FEDERAL I-5<br/>SAN JUAN CO., UTAH</b>  |    |      | DWG NO. |               |
| DRAWN <i>HONEY</i> |   |    |      | SH NO.  |               |
| CHECKED            |   |    |      |         |               |
| APP'D              |   |    |      |         |               |

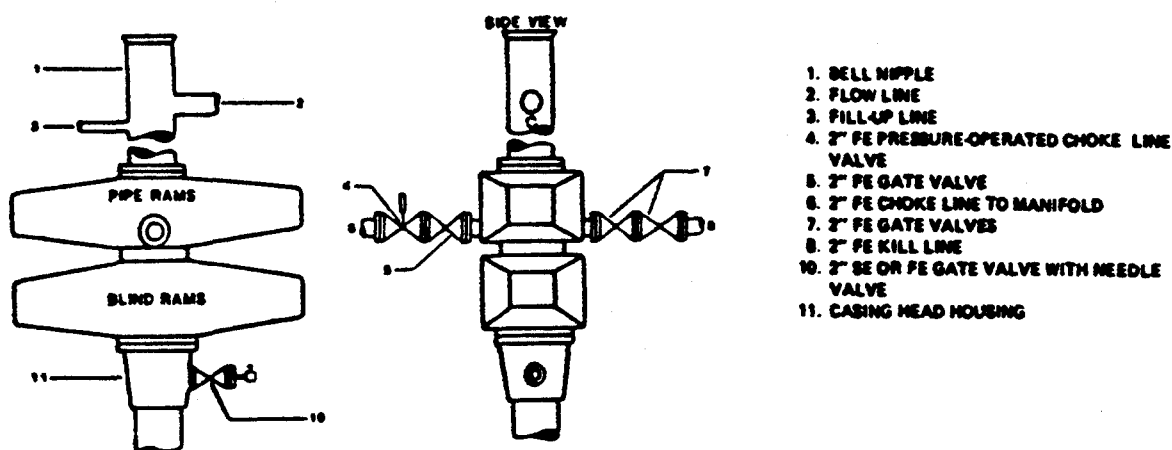


Figure 7-10. Standard Hydraulic Blowout Preventer Assembly  
(2 M or 3 M Working Pressure) Alternative 3 (without Drilling Spool)

Well Control 4  
January/83

PHILLIPS PETROLEUM COMPANY



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Section II

## 7.6 Testing Surface Blowout Preventer Equipment

### 7.6.1 Pressure Test Frequency

All rams, annulars, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves shall be pressure tested at the following frequencies:

- (1) Initial installation of blowout preventers.
- (2) After setting casing, before drilling cement.
- (3) Every 7 days or on first trip out of hole after 7 days since previous pressure test.
- (4) After any component of the blowout preventer assembly is disturbed, replaced or repaired (this includes lines, valves, or choke manifold). In this case, the component changed may be the only component tested.
- (5) Prior to conducting first drill stem test in a series of one or more DST's.
- (6) Any time the Phillips Wellsite Supervisor deems necessary, such as prior to drilling into suspected high pressure zones.



### 7.6.2 Function Test Frequency

All rams, annulars, valves, and other items specified below, shall be function tested at the following frequencies.

- (1) On initial installation from driller control and remote panel.
- (2) Each trip out of hole alternating between driller's and remote control panel but not more than once every twenty-four (24) hours. Close pipe rams or annular preventer ONLY on drill pipe.

### 7.6.3 Test Pressures

Use the following table to identify which test is appropriate and at what pressure.

| TEST                 | DESCRIPTION  |
|----------------------|--|
| Low Pressure         | Test to 200-300 psi prior to each high pressure test.  |
| Initial Installation | <p>Test all rams, annulars, valves, choke manifold, kelly cocks, and safety valves to the lesser of the following pressures.</p> <ul style="list-style-type: none"><li>. Rated working pressure of the component in the blowout preventer assembly with the exception of annular preventer which is to be tested to 70% of the rated working pressure.</li><li>. The API rated casing burst pressure of the last casing to be utilized in the well with the BOP assembly being tested.</li><li>. Rated working pressure of the casing head.</li><li>. If "Cup Tester" is used do not exceed 80% of the API rated burst pressure of the casing.</li></ul> |
| Repair               | Repaired or replaced components are to be tested to the same pressures used in the Initial Test.   |

## 7.6.3, cont'd

| TEST                            | DESCRIPTION   |
|---------------------------------|---|
| Weekly and After Setting Casing | <p>Test all rams, annulars, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves, to the lesser of the following pressures.</p> <ul style="list-style-type: none"> <li>. 50% of the rated working pressure of the component to be tested.</li> <li>. 80% of the API rating of the casing burst pressure then in the well.</li> <li>. Test blind rams during internal casing pressure test. (Refer to drilling program for test pressures).</li> </ul> |
| DST Operations                  | <p>Test all pipe rams, annular preventers, valves, choke and kill lines, choke manifold, kelly cocks, and safety valves to the maximum anticipated surface pressure expected while conducting drill stem tests. Do not test annular to more than 70% of its working pressure.</p>   |
| Shallow Casing                  | <p>Where cased hole is less than 2000 feet measured depth, the test pressure may be 1.5 psi per foot of casing depth, not to exceed 80% of the API rated burst pressure. In the case of shallow conductor casing or drive pipe (500 feet or less) that is equipped with one BOP, then the test pressures do not need to exceed 1.0 psi per foot of casing depth.</p>  |
| Accumulator                     | <p>Test accumulator to the manufacturer's rated working pressure. Test the accumulator for time to pump up to specifications.</p>   |

## 7.6.4 Blowout Preventer Test Practices

- (1) All pressure tests shall be witnessed by Phillips' Representative and the Contractor's Senior Supervisor on Location. All tests shall be recorded on the Phillips' Daily Drilling Report, the IADC Report and the BOP Test Form; see Figure 7-13. A reproducible copy of the BOP Test Form (Figure 7-13) can be found in Section III.



## 7.6.4, cont'd

- (2) Hold all low pressure tests for three minutes and high pressure tests for five minutes or until Phillips Representative and the Contractor's Senior Supervisor are satisfied no leaks exist.
- (3) A detail procedure for the testing of blowout preventer and choke manifold equipment will be included in the drilling programs. The procedure is to be distributed for each drilling unit under contract by the operating office. Each operating office must include the following practices:
  - a. Prior to testing, all lines and valves will be thoroughly flushed to ensure the system is clear. Test all opening and closing control lines to 1500 psi and inspect for leaks.
  - b. If necessary, run a stand of drill collars below the test plug to prevent unseating the test tool during testing.
  - c. All precautions must be taken to avoid pressuring the casing below the test tool.
  - d. The running string is to be full of water (or antifreeze solution) for immediate indication of test tool leakage.
  - e. All pipe rams, blind/shear rams, blind rams, annular preventers, valves, fail-safe valves, choke and kill lines are to be tested at the frequencies and pressures outlined in this section.
  - f. Drill pipe safety valve, lower and upper kelly cocks are to be tested from below at pressures and frequencies outlined in this section.
  - g. All test fluids are to be bled back to the pump unit in safe manner.

## 7.6.5 Testing Wellhead Pack-offs

The wellhead pack-off is to be pressure tested upon installation for five minutes. Test pressure is to be 80% API rated casing collapse or the rated working pressure of the casing head whichever is the lesser. Casing annulus valve(s) must be in open position to prevent casing collapse during pack-off testing.

When testing the wellhead pack-off, use recorded test pressures and volumes to determine if pack-off is leaking. Pressure should be immediately released at the first indication of a leak.



### 7.6.6 Safety Precautions

One pumping unit operator is to be stationed at the high pressure pumping unit, and is to remain at this station until all testing has been completed. The pump unit operator is to be in continuous communication with the person who is recording the test data. The Phillips Wellsite Supervisor and Contractor's Senior Supervisor on location will be the only personnel who will go into the test area to inspect for leaks when the equipment involved is under pressure. The rig crews are to stay clear of the area until such time that both the Phillips Wellsite Supervisor and the Contractor's Senior Supervisor have contacted the pumping unit operator and all three have agreed that all pressure has been released, and there is no possibility of pressure being trapped. The rig crews may then go into the area to repair leaks or work as directed.

All lines, swings, and connections that are used in the testing of the blowout preventers are to be adequately secured in place.

Pressure is to be released only through the pressure release lines that are vented back into the pump unit tanks. The lines are to be clamped down to direct the flow into unit tanks.





**COMPLETE ARCHAEOLOGICAL SERVICE ASSOCIATES**

7 North Park Street • Cortez, Colorado 81321 • (303) 565-9229

Mr. Mark Henderson, Archaeologist  
Navajo Area Office  
Bureau of Indian Affairs  
Post Office Box M  
Window Rock, AZ 86515

November 13, 1985

Dear Mark,

Enclosed are 7 copies of a cultural resource inventory report for a wildcat well and access road near Montezuma Creek, Utah. This report was prepared for Phillips Petroleum.

Please give me a call if you have any questions concerning this report.

Sincerely,

Laurens C. Hammack  
CASA

Enclosures.

FOR BIA USE ONLY  
BIA CLEARANCE NO. \_\_\_\_\_  
DATE RECEIVED: \_\_\_\_\_  
DATE REVIEWED: \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_  
(This form to be used only when no cultural resources  
are discovered within the area surveyed for clearance)

UNITED STATES GOVERNMENT

# memorandum

DATE: November 13, 1985

REPLY TO  
ATTN OF: Acting Director, Navajo Area Office

SUBJECT: Cultural Resource Inventory, Phillips Petroleum Company, Alkali Creek Federal No. 1-5.  
by Laurens C. Hammack, Complete Archaeological Service Associates, 7 North park Street,  
Cortez, Colorado 81321

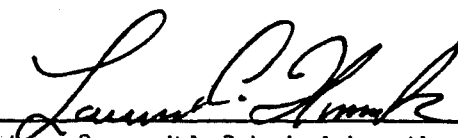
TO: Phillips Petroleum Company  
Post Office Box 1150  
Cortez, Colorado 81321

## PROJECT DESCRIPTION:

Land Status Tribal Trust Agency Shiprock Chapter Aneth  
State Utah County San Juan Acres 7.5 (See Attached Map)  
Township 39S Range 24E Section 5 cent 1 NWSE UTM Zone 12 mN 4143050 mE 650300

I CERTIFY THAT THE ON-SITE INSPECTION OF THE PROPOSED PROJECT AREA DESCRIBED HEREIN HAS  
REVEALED NO CULTURAL RESOURCES. AN INTENSIVE SURVEY WAS CONDUCTED ON November 9, 1985  
BY Laurens C. Hammack

Federal Antiquities Permit No. BIA-NAO-UA-85-002  
Navajo Tribal Antiquities Permit No. 1985-13

  
Signature: Responsible Principal Investigator Date

*Archeological Clearance for the area described is hereby granted.*

*This clearance does not constitute approval of right-of-way, concurrence in the proposed action by the Bureau of Indian Affairs, or approval to proceed with the project. This clearance constitutes one of several mandated requirements which must be completed prior to granting of right-of-way, easements or approval by the BIA for land modifying projects proposed for Trust lands.*

*IT IS THE RESPONSIBILITY OF THE PROJECT SPONSOR TO ACQUAINT CONTRACTORS AND SUB-CONTRACTORS WITH THE BOUNDARIES FOR WHICH THIS CLEARANCE IS GRANTED.*

*Should any cultural materials be discovered during project operations, all work must cease in the immediate area of the exposed resource. The Navajo Nation Cultural Resource Management Program and the BIA Navajo Area Archeologist shall be notified to arrange an on-site inspection for the purpose of determining the significance and disposition of the archeological remains.*

*THE PROJECT SPONSOR IS RESPONSIBLE FOR ADVISING CONTRACTORS AND SUB-CONTRACTORS OF THIS REQUIREMENT AND ASSURING ITS COMPLIANCE.*

Signature: Navajo Area Director Date

16 U.S.C. 470ee; P.L. 96-95

SEC. 6(a) NO PERSON MAY EXCAVATE, REMOVE, DAMAGE OR OTHERWISE ALTER OR DEFACE ANY ARCHEOLOGICAL RESOURCE LOCATED ON PUBLIC LANDS OR INDIAN LANDS UNLESS SUCH ACTIVITY IS PURSUANT TO A PERMIT ISSUED UNDER SECTION 4, A PERMIT REFERRED TO IN SECTION 4(h)(2), OR THE EXEMPTION CONTAINED IN SECTION 4(g)(1).

SEC. 6(d) ANY PERSON WHO KNOWINGLY VIOLATES, OR COUNSELS, PROCURES, SOLICITS, OR EMPLOYS ANY OTHER PERSON TO VIOLATE, ANY PROHIBITION CONTAINED IN SUBSECTION (a) OF THIS SECTION SHALL UPON CONVICTION BE FINED NOT MORE THAN \$10,000 OR IMPRISONED NOT MORE THAN 1 YEAR OR BOTH: PROVIDED HOWEVER, THAT IF THE COMMERCIAL OR ARCHEOLOGICAL VALUE OF THE ARCHEOLOGICAL RESOURCES INVOLVED AND THE COST OF RESTORATION AND REPAIR OF SUCH RESOURCES EXCEED THE SUM OF \$5,000, SUCH PERSON SHALL BE FINED NOT MORE THAN \$20,000 OR IMPRISONED NOT MORE THAN TWO YEARS OR BOTH.

Cultural Resource Inventory  
Phillips Petroleum Company  
Alkali Creek Federal No. 1-5  
Navajo Nation  
San Juan County, Utah

by  
Laurens C. Hammack  
Complete Archaeological Service Associates  
7 North Park  
Cortez, Colorado 81321

prepared for  
Phillips Petroleum Company  
Post Office Box 1150  
Cortez, Colorado 81321

submitted to  
Bureau of Indian Affairs, Navajo Area Office  
Navajo Nation Cultural Resource Management Program

Navajo Nation Antiquities Permit No. 1985-13  
BIA-NAO-UA-85-002  
NAO-CASA-85-614  
Utah State Permit No. U-85-10-672i

November 13, 1985

### Abstract

On November 9, 1985, Laurens C. Hammack of Complete Archaeological Service Associates carried out an intensive cultural resource inventory of a ten acre parcel and a one-half mile long, fifty foot wide access road for Phillips Petroleum Company's Alkali Creek Federal No. 1-5 wildcat well location. This proposed well is on Navajo Tribal Trust lands north of Montezuma Creek, San Juan County, Utah. No significant historic or prehistoric cultural resources were found during the inventory and cultural resource clearance is recommended for the wellpad and access road.

## Introduction

A cultural resource inventory was carried out for a proposed wildcat well location eleven miles north of Montezuma Creek, Utah by Complete Archaeological Service Associates (CASA). This survey was undertaken at the request of Jon Weichbrodt, Operations Superintendent, Phillips Petroleum Company, Cortez, Colorado.

The field work was done by Laurens C. Hammack of CASA on November 9, 1985. The inventory was done under the authority of the following permits issued to Complete Archaeological Service Associates: BIA-NAO-UA-85-002; Navajo Nation Antiquities Permit 1985-13; Utah State Antiquities permit No. U-85-10-627i; and BIA CASE No. NAO-CASA-85-614. The required copies of the "Notification of Intent to Conduct Field Investigations" was filed with the Navajo Area Office, Bureau of Indian Affairs and the Navajo Tribal Archaeologist on October 28, 1985.

## Project Description and Location

The proposed well, Alkali Creek Federal No. 1-5, is situated on Navajo Nation lands within Section 5, Township 39 South, Range 24 East, 1½ miles south of the Navajo Reservation Boundary, San Juan County Utah. This area falls under the administrative responsibilities of the Aneth Chapter of the Shiprock Agency. The survey area would be within the Aneth Oil Field and is approximately 15 miles due north of Phillips' Ratherford Lease. The map source for this project is the 15 minute USGS Quadrangle for Montezuma Creek, Utah (Figure 1). A complete description of the proposed wildcat well and access road is presented in the following pages.

The well pad has been staked in a level portion of a minor tributary drainage of Alkali Creek, with the well pad positioned in the first open area below the canyon head. Sandstone cliffs flank the location on the east and west, with the canyon widening to the north. A small drainage cuts just east of the well pad. This arroyo drains the small canyon system which heads approximately ½ mile to the south. Vegetation on the proposed pad is mainly grasses with sagebrush and an occasional juniper. On the canyon slopes juniper is more abundant. Access is by a trail road which leads off main highway through heavy sagebrush flats. An access road will need to be constructed. This road will follow an existing track road into the canyon and will be approximately one-half mile in length.

## Survey Methodology

The well pad and access road had been staked prior to the cultural resource inventory. All corners of the pad were well flagged and the drill hole was indicated by a green iron fence post. The access road was examined from the existing dirt road as shown on Figure 1 to the well pad by walking a 25 foot wide area on either side of the existing track road. The well pad was investigated in a series of parallel transects in a north-south direction. A buffer zone around the staked well pad was also investigated in a similar manner, resulting in a total survey area of 10 acres inventoried.

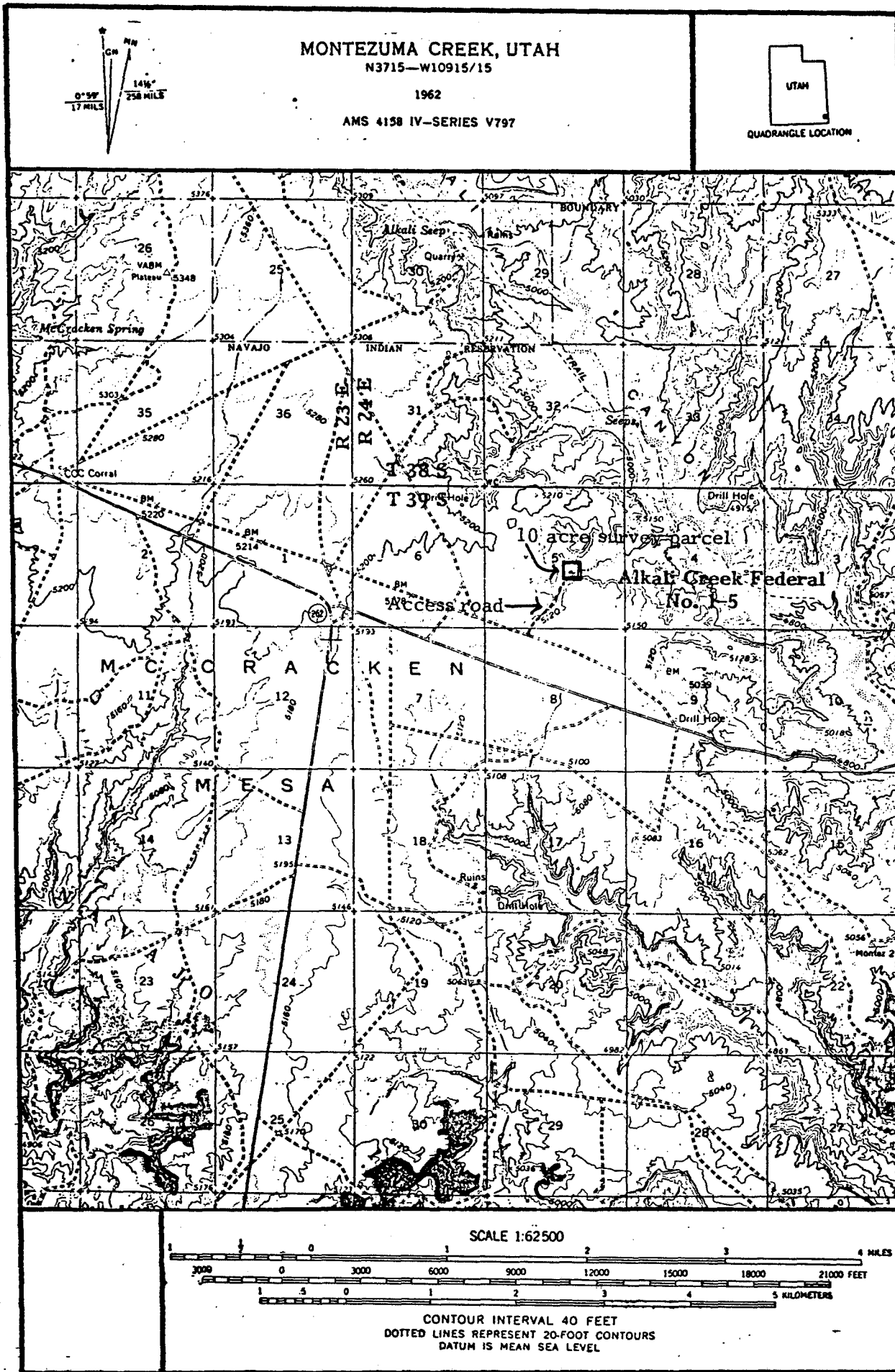


Figure 1. Project Location Map.

Prior to conducting the field work, a records search was undertaken for the NW¼ of the SE¼ of Section 5 at the Utah Division of State History in Salt Lake City. The records search indicated that no previously recorded sites were located within the survey area. One previous survey, Utah Division of State History File Number P-780 (Swift, Hancock and Luce 1982), had been carried out within the area.

#### Survey Results and Recommendations

No significant historic or prehistoric cultural resources were located within the areas described in this report and cultural resource clearance is recommended for construction of Alkali Creek Federal No. 1-5 well pad and access road.

#### References

Swift, Marilyn, Pat Hancock, and Mollie Luce

- 1982 A Managerial Report of the Archaeological Survey of 408 miles of Seismic Line in San Juan County, Utah and Montezuma County, Colorado. Division of Conservation Archeology. Ms on file at the Utah State Historical Society, Antiquities Section, Salt Lake City.

### Project Description

**Project Name:** Phillips Petroleum Company's Alkali Creek Federal No. 1-5 Wild-cat Well and access road.

**Map Reference:** USGS Montezuma Creek, Utah, 15 min., 1962

**Legal Description:** Center of NW¼ of SE¼, Section 5, Township 39 South, Range 24 East, San Juan County, Utah, Salt Lake City Meridian.

**UTM Locations:** Well Pad (center): Zone 12, 650300E/4143050N  
Access Road (beginning): Zone 12, 649700E/4142350N

**Measured Location:** 2130 feet from south section line, 2100 feet from east section line.

**Elevation:** 5064 feet

**Ownership:** Navajo Tribal Trust

**Area Surveyed:** Well Pad: 10 acres (4.04 hectares) (Figure 2)  
Access Road: 3000x50 feet or 3.45 acres (1.39 hectares)

**Description:** The proposed well site is located some 3000 feet northeast of an existing dirt road paralleling the paved road leading to Hatch Trading Post and Hovenweep National Monument and is approximately 1.5 miles east of the junction with State Route 262. The well pad is in an open portion of a small tributary of Alkali Creek, one mile to the northeast. This tributary canyon is one of a number of small drainages leading from the flanks of McCracken Mesa, a prominent named landform. The location is in open grassland flanked by sandstone cliffs to the east and west. Juniper and sage are the major vegetation types in the area. Access will be by improving an existing dirt track leading into the canyon.

### Cultural Resources

**and Recommendations:** No significant historic or prehistoric cultural resources were located during the inventory of this well site and access road. Cultural Resource Clearance is recommended for construction of Alkali Creek Federal No. 1-5 well and access road.

COMPANY PHILLIPS PETROLEUM COMPANY

LEASE ALKALI CREEK-FEDERAL WELL NO. 1-5

SEC. 5 T. 39S R. 24E

County: San Juan State: Utah

LOCATION 2130' FSL 2100' FEL

ELEVATION 5064 ungraded ground

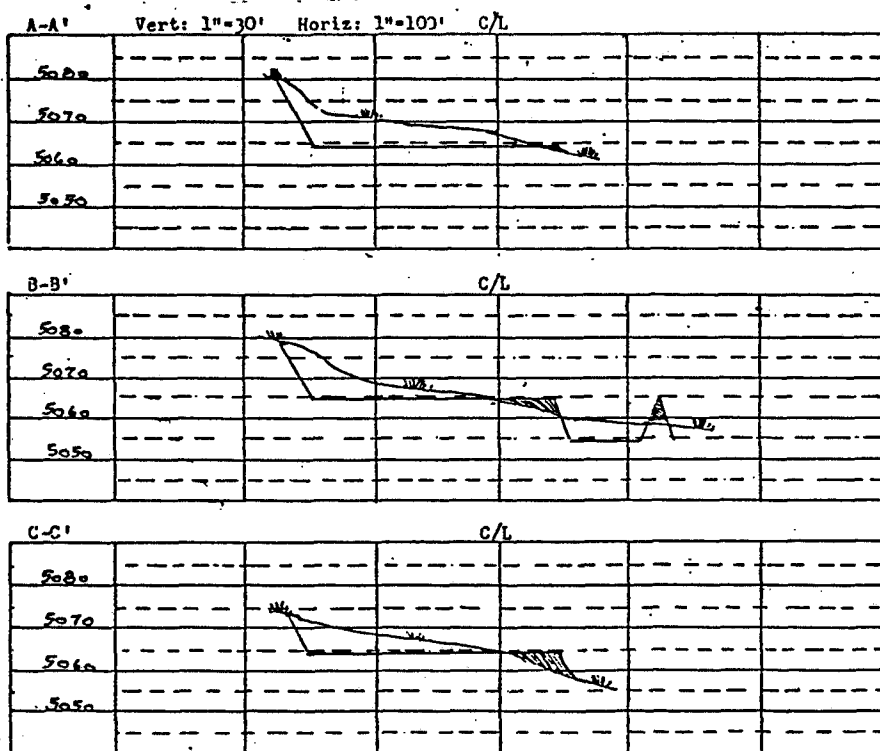
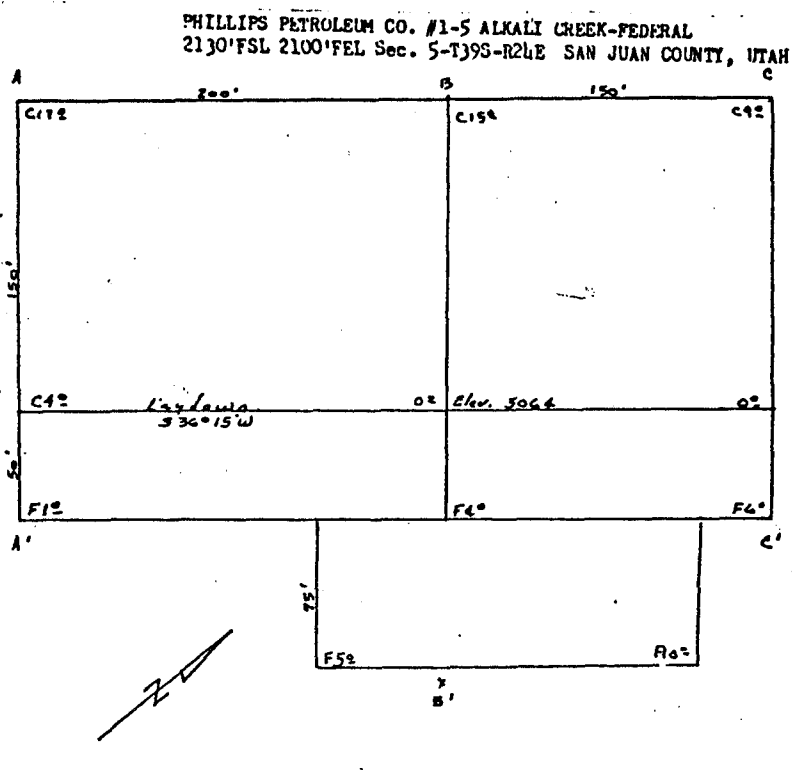
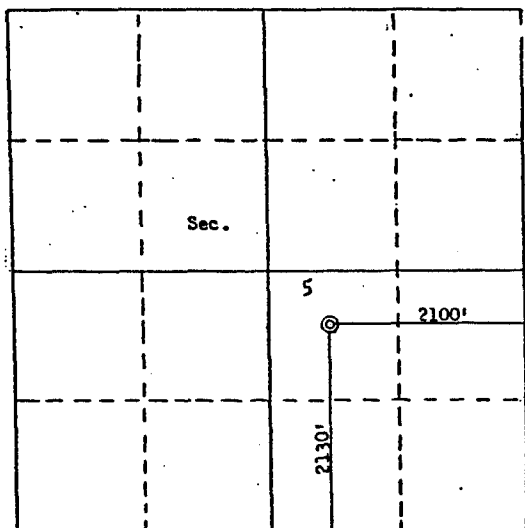


Figure 2. Survey plats and locational data for Alkali Creek Federal # 1-5.

OPERATOR Phillips Petroleum Co. DATE 12-16-85

WELL NAME Alkali Creek Sed. #1-5

SEC NWSE 5 T 39S R 24E COUNTY San Juan

43-037-31237  
API NUMBER

Indian  
TYPE OF LEASE

CHECK OFF:

☒

PLAT

☒

BOND

☒

NEAREST  
WELL

☒

LEASE

☒

FIELD

☒

POTASH OR  
OIL SHALE

PROCESSING COMMENTS:

No other well in Sec. 5.

Need water permit

APPROVAL LETTER:

SPACING: ☐ 203 \_\_\_\_\_ UNIT

☒ 302

☐ \_\_\_\_\_  
CAUSE NO. & DATE

☐ 302.1

STIPULATIONS:

1- Water

2- Technical aspects of the proposed drilling program such as casing design, mud program, etc. may be modified following as a result of review and approval of the application by the appropriate agencies. Notices of changes to the approved drilling program must be submitted to this office.



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 20, 1985

Phillips Petroleum Company  
P. O. Box 2920  
Casper, Wyoming 82602

Gentlemen:

Re: Well No. Alkali Creek Federal 1-5 - NW SE Sec. 5, T. 39S, R. 24E  
2130' FSL, 2100' FEL - San Juan County, Utah

Approval to drill the above-referenced well is hereby granted in accordance with Rule 302, General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.
2. Technical aspects of the proposed drilling program such as casing design, mud program, etc. may be modified as a result of review and approval of the application by the appropriate agencies. Notices of changes to the approved drilling program must be submitted to this office.

In addition, the following actions are necessary to fully comply with this approval:


1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, General Rules.

Page 2  
Phillips Petroleum Company  
Well No. Alkali Creek Federal 1-5  
December 20, 1985

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31237.

Sincerely,



R. J. Firth  
Associate Director, Oil & Gas

as  
Enclosures  
cc: Branch of Fluid Minerals  
Bureau of Indian Affairs  
Dianne Nielson

CORE ANALYSIS REPORT

FOR

PHILLIPS PETROLEUM COMPANY

ALKALI CREEK FED. # 1-5

WILDCAT

SAN JUAN, UTAH

PHILLIPS PETROLEUM COMPANY  
ALKALI CREEK FED. # 1-5  
WILDCAT  
SAN JUAN, UTAH

DALLAS, TEXAS  
DATE : 1-OCT-1986  
FORMATION : PARADOX  
DRLG. FLUID: WBM  
LOCATION : NW,SE SEC. 5-T39S-R24E

FILE NO : 38030-003456  
ANALYSTS : DS:SF  
ELEVATION: 5075 GL

CONVENTIONAL ANALYSIS-BOYLE'S LAW POROSITY

| SAMPLE<br>NUMBER                    | DEPTH       | PERM. TO<br>MAXIMUM | AIR (MD)<br>90 DEG | POR.<br>He | FLUID SATS.<br>OIL WTR | GRAIN<br>DEN | DESCRIPTION                |
|-------------------------------------|-------------|---------------------|--------------------|------------|------------------------|--------------|----------------------------|
| LOWER ISMAY ZONE CORE # 1 6075-6105 |             |                     |                    |            |                        |              |                            |
| 1                                   | 6075.0-81.0 |                     |                    |            |                        |              | ANHYDRITE --- NO ANALYSIS  |
|                                     | 6081.0-82.0 | 0.12                |                    | 3.5        | 3.7 22.0               | 2.88         | DOL LTBRN VFXLN ANHY CALC  |
|                                     | 6082.0-85.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 2                                   | 6085.0-86.0 | 0.07                |                    | 6.8        | 7.1 28.3               | 2.79         | DOL DKBRN VFXLN ANHY SHY   |
|                                     | 6086.0-87.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 3                                   | 6087.0-88.0 | 0.01                |                    | 8.7        | 0.0 46.3               | 2.77         | DOL LTBRN VFXLN CALC       |
|                                     | 6088.0-89.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 4                                   | 6089.0-90.0 | 0.01                |                    | 1.5        | 0.0 51.6               | 2.70         | LM DKGRY VFXLN SHY         |
|                                     | 6090.0-91.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 5                                   | 6091.0-92.0 | 0.01                |                    | 2.2        | 0.0 31.1               | 2.70         | LM GRY VFXLN SHY           |
|                                     | 6092.0-93.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 6                                   | 6093.0-94.0 | 3.26                |                    | 2.1        | 0.0 37.8               | 2.70         | LM DKGRY VFXLN SHY **      |
|                                     | 6094.0-95.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 7                                   | 6095.0-96.0 | 0.01                |                    | 5.8        | 0.0 30.3               | 2.77         | DOL DKGRY VFXLN CALC SHY   |
|                                     | 6096.0-97.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 8                                   | 6097.0-98.0 | 0.01                |                    | 7.1        | 0.0 23.3               | 2.80         | DOL BRN VFXLN CALC         |
|                                     | 6098.0-99.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 9                                   | 6099.0-00.0 | 0.11                |                    | 7.1        | 4.1 24.8               | 2.83         | DOL BRN VFXLN ANHY CALC ** |
|                                     | 6100.0-01.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 10                                  | 6101.0-02.0 | 0.01                |                    | 3.5        | 0.0 21.6               | 2.77         | LM LTGRY VFXLN DOL         |
|                                     | 6102.0-03.0 |                     |                    |            |                        |              | LM/DOL SHY --- NO ANALYSIS |
| 11                                  | 6103.0-04.0 | 0.08                |                    | 5.0        | 3.4 20.3               | 2.75         | LM LTGRY VFXLN DOL         |
|                                     | 6104.0-05.0 |                     |                    |            |                        |              | CORE LOSS                  |
|                                     | 6105.0-05.0 |                     |                    |            |                        |              | DRILLED TO DESERT CREEK    |

DESERT CREEK ZONE CORE # 2 6205-6234

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*

DALLAS, TEXAS

PAGE 2

PHILLIPS PETROLEUM COMPANY  
 ALKALI CREEK FED. # 1-5

DATE : 1-OCT-1986  
 FORMATION : PARADOX

FILE NO : 38030-003456  
 ANALYSTS : DS:SP

CONVENTIONAL ANALYSIS-BOYLE'S LAW POROSITY

| SAMPLE<br>NUMBER | DEPTH       | PERM. TO<br>MAXIMUM | AIR (MD)<br>90 DEG | POR.<br>He | FLUID SATS.<br>OIL WTR | GRAIN<br>DEN | DESCRIPTION              |
|------------------|-------------|---------------------|--------------------|------------|------------------------|--------------|--------------------------|
|                  | 6205.0-09.0 |                     |                    |            |                        |              | ANHYDRITE -- NO ANALYSIS |
|                  | 6209.0-10.0 |                     |                    |            |                        |              | SHALE -- NO ANALYSIS     |
| 12               | 6210.0-11.0 | 0.06                |                    | 12.7       | 9.7 30.1               | 2.80         | DOL BRN VFXLN CALC       |
| 13               | 6211.0-12.0 | 0.14                |                    | 15.5       | 5.0 53.8               | 2.76         | DOL BRN VFXLN CALC       |
| 14               | 6212.0-13.0 | 0.09                |                    | 14.3       | 7.3 52.1               | 2.76         | DOL BRN VFXLN CALC       |
| 15               | 6213.0-14.0 | 0.05                |                    | 12.9       | 6.0 62.4               | 2.75         | DOL BRN VFXLN CALC       |
| 16               | 6214.0-15.0 | 0.11                |                    | 15.2       | 0.8 58.6               | 2.76         | DOL BRN VFXLN CALC       |
| 17               | 6215.0-16.0 | 0.15                |                    | 16.3       | 0.7 70.7               | 2.76         | DOL BRN VFXLN CALC       |
| 18               | 6216.0-17.0 | 0.33                |                    | 17.1       | 0.6 66.6               | 2.77         | DOL BRN VFXLN CALC       |
| 19               | 6217.0-18.0 | 0.43                |                    | 18.4       | 7.6 21.9               | 2.76         | DOL BRN VFXLN CALC       |
| 20               | 6218.0-19.0 | 0.03                |                    | 13.4       | 1.9 87.6               | 2.77         | DOL BRN VFXLN CALC       |
| 21               | 6219.0-20.0 | 0.04                |                    | 14.4       | 0.0 78.6               | 2.76         | DOL BRN VFXLN CALC       |
| 22               | 6220.0-21.0 | 0.09                |                    | 14.8       | 5.5 79.9               | 2.75         | DOL BRN VFXLN CALC       |
| 23               | 6221.0-22.0 | 0.06                |                    | 14.7       | 8.5 77.8               | 2.75         | DOL BRN VFXLN CALC       |
| 24               | 6222.0-23.0 | 0.01                |                    | 2.7        | 0.0 74.8               | 2.71         | LM GRY VFXLN             |
| 25               | 6223.0-24.0 | 0.01                |                    | 2.4        | 0.0 73.4               | 2.71         | LM GRY VFXLN             |
| 26               | 6224.0-25.0 | 0.01                |                    | 5.2        | 0.0 63.9               | 2.73         | LM GRY VFXLN SL/ANHY     |
| 27               | 6225.0-26.0 | <0.01               |                    | 1.0        | 0.0 78.1               | 2.72         | LM GRY VFXLN             |
| 28               | 6226.0-27.0 | <0.01               |                    | 3.4        | 0.0 34.9               | 2.75         | LM GRY VFXLN SL/ANHY     |
| 29               | 6227.0-28.0 | <0.01               |                    | 1.4        | 13.0 26.0              | 2.71         | LM GRY VFXLN             |
| 30               | 6228.0-29.0 | 0.02                |                    | 4.0        | 15.5 31.1              | 2.74         | LM GRY VFXLN SL/ANHY     |
| 31               | 6229.0-30.0 | 0.01                |                    | 2.0        | 13.5 54.1              | 2.73         | LM GRY VFXLN SL/ANHY     |
| 32               | 6230.0-31.0 | 0.01                |                    | 3.3        | 21.4 42.9              | 2.75         | LM GRY VFXLN SL/ANHY     |
| 33               | 6231.0-32.0 | 0.01                |                    | 3.3        | 0.0 40.0               | 2.74         | LM GRY VFXLN SL/ANHY     |
|                  | 6232.0-34.0 |                     |                    |            |                        |              | CORE LOSS                |

\*\* DENOTES FRACTURE PERMEABILITY

Core Laboratories, Inc.  
Petroleum Reservoir Engineering

PHILLIPS PETROLEUM COMPANY  
ALKALI CREEK FED. # 1-5

DALLAS, TEXAS  
DATE : 1-OCT-1986  
FORMATION : PARADOX

FILE NO. : 38030-003456  
ANALYSTS : DS:SF

\*\*\* CORE SUMMARY AVERAGES FOR 1 ZONE \*\*\*

DEPTH INTERVAL: 6075.0 TO 6105.0

FEET OF CORE ANALYZED : 11.0 FEET OF CORE INCLUDED IN AVERAGES: 11.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

|                                     |   |              |                            |
|-------------------------------------|---|--------------|----------------------------|
| PERMEABILITY HORIZONTAL RANGE (MD.) | : | 0.00 TO 10.  | (UNCORRECTED FOR SLIPPAGE) |
| HELIUM POROSITY RANGE (%)           | : | 0.0 TO 100.0 |                            |
| OIL SATURATION RANGE (%)            | : | 0.0 TO 100.0 |                            |
| WATER SATURATION RANGE (%)          | : | 0.0 TO 100.0 |                            |

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 6075.0 TO 6105.0

|  |        |  |        |
|--|--------|--|--------|
| AVERAGE PERMEABILITY (MILLIDARCIES)                        |        | PRODUCTIVE CAPACITY (MILLIDARCY-FEET)                          |        |
| ARITHMETIC PERMEABILITY                                    | : 0.34 | ARITHMETIC CAPACITY  | : 3.7  |
| GEOMETRIC PERMEABILITY                                     | : 0.04 | GEOMETRIC CAPACITY   | : 0.42 |
| HARMONIC PERMEABILITY                                      | : 0.02 | HARMONIC CAPACITY  | : 0.19 |
| AVERAGE POROSITY (PERCENT)                                 | : 4.8  | AVERAGE TOTAL WATER SATURATION<br>(PERCENT OF PORE SPACE)      | : 29.9 |
| AVERAGE RESIDUAL OIL SATURATION<br>(PERCENT OF PORE SPACE) | : 2.0  | AVERAGE CONNATE WATER SATURATION **<br>(PERCENT OF PORE SPACE) | : 27.9 |

\*\* ESTIMATED FROM TOTAL  
WATER SAUTRATION.

CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering

PHILLIPS PETROLEUM COMPANY  
ALKALI CREEK FED. # 1-5

DALLAS, TEXAS  
DATE : 1-OCT-1986  
FORMATION : PARADOX

FILE NO. : 38030-003456  
ANALYSTS : DS:SP

\*\*\* CORE SUMMARY AVERAGES FOR 1 ZONE \*\*\*

DEPTH INTERVAL: 6205.0 TO 6234.0

FEET OF CORE ANALYZED : 22.0 FEET OF CORE INCLUDED IN AVERAGES: 22.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

|                                     |   |              |                            |
|-------------------------------------|---|--------------|----------------------------|
| PERMEABILITY HORIZONTAL RANGE (MD.) | : | 0.00 TO 10.  | (UNCORRECTED FOR SLIPPAGE) |
| HELIUM POROSITY RANGE (%)           | : | 0.0 TO 100.0 |                            |
| OIL SATURATION RANGE (%)            | : | 0.0 TO 100.0 |                            |
| WATER SATURATION RANGE (%)          | : | 0.0 TO 100.0 |                            |

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 6205.0 TO 6234.0

|  |        |  |        |
|--|--------|--|--------|
| AVERAGE PERMEABILITY (MILLIDARCIES)                        |        | PRODUCTIVE CAPACITY (MILLIDARCY-FEET)                          |        |
| ARITHMETIC PERMEABILITY                                    | : 0.08 | ARITHMETIC CAPACITY  | : 1.7  |
| GEOMETRIC PERMEABILITY                                     | : 0.03 | GEOMETRIC CAPACITY   | : 0.57 |
| HARMONIC PERMEABILITY                                      | : 0.01 | HARMONIC CAPACITY  | : 0.13 |
| AVERAGE POROSITY (PERCENT)                                 | : 9.5  | AVERAGE TOTAL WATER SATURATION<br>(PERCENT OF PORE SPACE)      | : 59.7 |
| AVERAGE RESIDUAL OIL SATURATION<br>(PERCENT OF PORE SPACE) | : 4.6  | AVERAGE CONNATE WATER SATURATION **<br>(PERCENT OF PORE SPACE) | : 59.7 |

\*\* ESTIMATED FROM TOTAL  
WATER SATURATION.

PERMEABILITY VS POROSITY

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD - HORIZONTAL ( UNCORRECTED FOR SLIPPAGE )  
POROSITY : PERCENT ( HELIUM )

| DEPTH<br>INTERVAL | RANGE &<br>SYMBOL | PERMEABILITY<br>MINIMUM MAXIMUM | POROSITY<br>MIN. MAX. | POROSITY<br>AVERAGE | PERMEABILITY AVERAGES<br>ARITHMETIC HARMONIC GEOMETRIC |
|-------------------|-------------------|---------------------------------|-----------------------|---------------------|--|
| 6075.0 - 6105.0   | 1 (+)             | 0.000 10.0                      | 0.0 10.0              | 4.8                 | 0.34 0.02 0.04   |

PERMEABILITY: MILLIDARCIES

0.1

0.01

0.0

2.0

4.0

6.0

8.0

10.0

12.0

PERMEABILITY VS. POROSITY  
PHILLIPS PETROLEUM COMPANY  
ALKALI CREEK FED. # 1-5  
WILDCAT LOWER ISMAY ZONE  
SAN JUAN, UTAH

PERMEABILITY VS POROSITY

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD - HORIZONTAL ( UNCORRECTED FOR SLIPPAGE )  
POROSITY : PERCENT ( HELIUM )

| DEPTH<br>INTERVAL | RANGE &<br>SYMBOL | PERMEABILITY |         | POROSITY |      | POROSITY<br>AVERAGE | PERMEABILITY AVERAGES |          |           |
|-------------------|-------------------|--------------|---------|----------|------|---------------------|-----------------------|----------|-----------|
|                   |                   | MINIMUM      | MAXIMUM | MIN.     | MAX. |                     | ARITHMETIC            | HARMONIC | GEOMETRIC |
| 6205.0 - 6234.0   | 1 (+)             | 0.000        | 10.0    | 0.0      | 20.0 | 9.5                 | 0.08                  | 0.01     | 0.03      |

PERMEABILITY: MILLIDARCIES

0.1

0.01

0.0

3.0

6.0

9.0

12.0

15.0

18.0

PERMEABILITY VS. POROSITY  
 PHILLIPS PETROLEUM COMPANY  
 ALKALI CREEK FED. # 1-5  
 WILDCAT DESERT CREEK ZONE  
 SAN JUAN, UTAH

+

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD. ( HORIZONTAL ) RANGE USED 0.000 TO 10.  
POROSITY : PERCENT ( HELIUM ) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 6075.0 - 6105.0 INTERVAL LENGTH : 30.0  
FEET ANALYZED IN ZONE : 11.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

| POROSITY<br>AVERAGE | PERMEABILITY AVERAGES |          |           |
|---------------------|-----------------------|----------|-----------|
|                     | ARITHMETIC            | HARMONIC | GEOMETRIC |
| 4.8                 | 0.34                  | 0.02     | 0.04      |

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY POROSITY RANGES

| POROSITY<br>RANGE | FEET IN<br>RANGE | AVERAGE<br>POROSITY | AVERAGE PERM.<br>(GEOM.) | AVERAGE PERM.<br>(ARITH) | FREQUENCY<br>(PERCENT) | CUMULATIVE<br>FREQUENCY (%) |
|-------------------|------------------|---------------------|--------------------------|--------------------------|------------------------|-----------------------------|
| 0.0 - 2.0         | 1.0              | 1.5                 | 0.010                    | 0.010                    | 9.1                    | 9.1                         |
| 2.0 - 4.0         | 4.0              | 2.8                 | 0.079                    | 0.850                    | 36.4                   | 45.5                        |
| 4.0 - 6.0         | 2.0              | 5.4                 | 0.028                    | 0.045                    | 18.2                   | 63.6                        |
| 6.0 - 8.0         | 3.0              | 7.0                 | 0.043                    | 0.063                    | 27.3                   | 90.9                        |
| 8.0 - 10.0        | 1.0              | 8.7                 | 0.010                    | 0.010                    | 9.1                    | 100.0                       |

TOTAL NUMBER OF FEET = 11.0

CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

PAGE 3

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY PERMEABILITY RANGES

| PERMEABILITY<br>RANGE | FEET IN<br>RANGE | AVERAGE PERM.<br>(GEOM.) | AVERAGE PERM.<br>(ARITH) | AVERAGE<br>POROSITY | FREQUENCY<br>(PERCENT) | CUMULATIVE<br>FREQUENCY (%) |
|-----------------------|------------------|--------------------------|--------------------------|---------------------|------------------------|-----------------------------|
| 0.010 - 0.020         | 6.0              | 0.010                    | 0.010                    | 4.8                 | 54.5                   | 54.5                        |
| 0.039 - 0.078         | 1.0              | 0.070                    | 0.070                    | 6.8                 | 9.1                    | 63.6                        |
| 0.078 - 0.156         | 3.0              | 0.102                    | 0.103                    | 5.2                 | 27.3                   | 90.9                        |
| 2.500 - 5.000         | 1.0              | 3.3                      | 3.3                      | 2.1                 | 9.1                    | 100.0                       |

TOTAL NUMBER OF FEET = 11.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

| POROSITY<br>CUT OFF | FEET<br>LOST | CAPACITY<br>LOST (%) | FEET<br>REMAINING | CAPACITY<br>REMAINING (%) | ARITH<br>MEAN | MEDIAN |
|---------------------|--------------|----------------------|-------------------|---------------------------|---------------|--------|
| 0.0                 | 0.0          | 0.0                  | 11.0              | 100.0                     | 4.8           | 4.5    |
| 2.0                 | 1.0          | 2.8                  | 10.0              | 97.2                      | 5.2           | 5.0    |
| 4.0                 | 5.0          | 24.0                 | 6.0               | 76.0                      | 6.8           | 6.7    |
| 6.0                 | 7.0          | 44.3                 | 4.0               | 55.7                      | 7.4           |        |
| 8.0                 | 10.0         | 83.7                 | 1.0               | 16.3                      | 8.7           |        |
| 10.0                | 11.0         | 100.0                | 0.0               | 0.0                       |               |        |

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 53.3

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

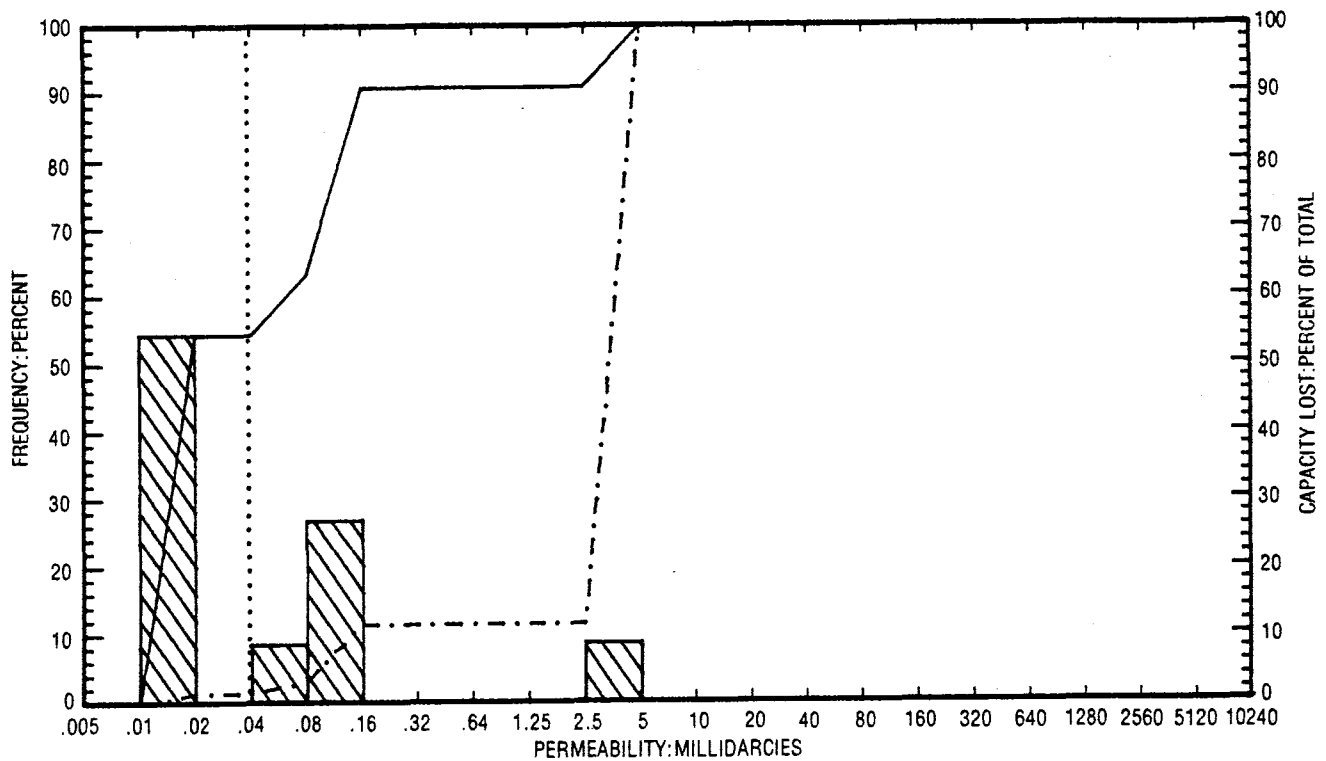
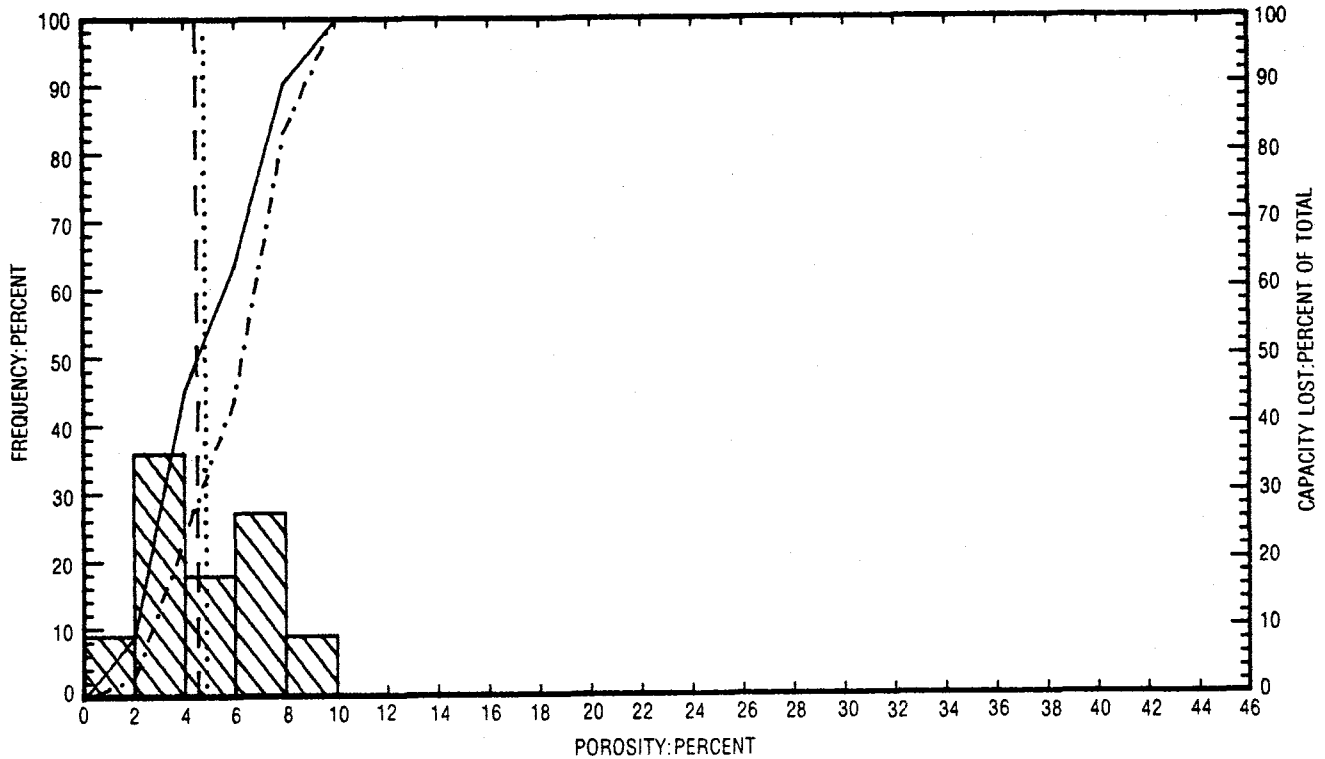
WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

| PERMEABILITY<br>CUT OFF | FEET<br>LOST | CAPACITY<br>LOST (%) | FEET<br>REMAINING | CAPACITY<br>REMAINING (%) | GEOM<br>MEAN | MEDIAN |
|-------------------------|--------------|----------------------|-------------------|---------------------------|--------------|--------|
| 0.005                   | 0.0          | 0.0                  | 11.0              | 100.0                     | 0.04         |        |
| 0.010                   | 0.0          | 0.0                  | 11.0              | 100.0                     | 0.04         |        |
| 0.020                   | 6.0          | 1.6                  | 5.0               | 98.4                      | 0.19         | 0.11   |
| 0.039                   | 6.0          | 1.6                  | 5.0               | 98.4                      | 0.19         | 0.11   |
| 0.078                   | 7.0          | 3.5                  | 4.0               | 96.5                      | 0.24         |        |
| 0.156                   | 10.0         | 11.9                 | 1.0               | 88.1                      | 3.26         | 3.54   |
| 0.312                   | 10.0         | 11.9                 | 1.0               | 88.1                      | 3.26         | 3.54   |
| 0.625                   | 10.0         | 11.9                 | 1.0               | 88.1                      | 3.26         | 3.54   |
| 1.250                   | 10.0         | 11.9                 | 1.0               | 88.1                      | 3.26         |        |
| 2.500                   | 10.0         | 11.9                 | 1.0               | 88.1                      | 3.26         |        |
| 5.                      | 11.0         | 100.0                | 0.0               | 0.0                       |              |        |

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 3.70

# LOWER ISMAY ZONE



## PERMEABILITY AND POROSITY HISTOGRAMS

PHILLIPS PETROLEUM COMPANY  
 ALKALI CREEK FED. # 1-5  
 WILDCAT  
 SAN JUAN, UTAH

### LEGEND

ARITHMETIC MEAN POROSITY .....  
 GEOMETRIC MEAN PERMEABILITY .....  
 MEDIAN VALUE .....  
 CUMULATIVE FREQUENCY .....  
 CUMULATIVE CAPACITY LOST .....  
 CUMULATIVE CAPACITY LOST

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD. ( HORIZONTAL ) RANGE USED 0.000 TO 10.  
POROSITY : PERCENT ( HELIUM ) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 6205.0 - 6234.0 INTERVAL LENGTH : 29.0  
FEET ANALYZED IN ZONE : 22.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

| POROSITY<br>AVERAGE | PERMEABILITY AVERAGES |          |           |
|---------------------|-----------------------|----------|-----------|
|                     | ARITHMETIC            | HARMONIC | GEOMETRIC |
| 9.5                 | 0.08                  | 0.01     | 0.03      |

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY POROSITY RANGES

| POROSITY<br>RANGE | FEET IN<br>RANGE | AVERAGE<br>POROSITY | AVERAGE PERM.<br>(GEOM.) | AVERAGE PERM.<br>(ARITH) | FREQUENCY<br>(PERCENT) | CUMULATIVE<br>FREQUENCY (%) |
|-------------------|------------------|---------------------|--------------------------|--------------------------|------------------------|-----------------------------|
| 0.0 - 2.0         | 2.0              | 1.2                 | 0.005                    | 0.005                    | 9.1                    | 9.1                         |
| 2.0 - 4.0         | 6.0              | 2.9                 | 0.009                    | 0.009                    | 27.3                   | 36.4                        |
| 4.0 - 6.0         | 2.0              | 4.6                 | 0.014                    | 0.015                    | 9.1                    | 45.5                        |
| 12.0 - 14.0       | 3.0              | 13.0                | 0.045                    | 0.047                    | 13.6                   | 59.1                        |
| 14.0 - 16.0       | 6.0              | 14.8                | 0.082                    | 0.088                    | 27.3                   | 86.4                        |
| 16.0 - 18.0       | 2.0              | 16.7                | 0.222                    | 0.240                    | 9.1                    | 95.5                        |
| 18.0 - 20.0       | 1.0              | 18.4                | 0.430                    | 0.430                    | 4.5                    | 100.0                       |

TOTAL NUMBER OF FEET = 22.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY PERMEABILITY RANGES

| PERMEABILITY<br>RANGE | FEET IN<br>RANGE | AVERAGE PERM.<br>(GEOM.) | AVERAGE PERM.<br>(ARITH) | AVERAGE<br>POROSITY | FREQUENCY<br>(PERCENT) | CUMULATIVE<br>FREQUENCY (%) |
|-----------------------|------------------|--------------------------|--------------------------|---------------------|------------------------|-----------------------------|
| 0.005 - 0.010         | 3.0              | 0.005                    | 0.005                    | 1.9                 | 13.6                   | 13.6                        |
| 0.010 - 0.020         | 6.0              | 0.010                    | 0.010                    | 3.1                 | 27.3                   | 40.9                        |
| 0.020 - 0.039         | 2.0              | 0.024                    | 0.025                    | 8.7                 | 9.1                    | 50.0                        |
| 0.039 - 0.078         | 4.0              | 0.052                    | 0.053                    | 13.7                | 18.2                   | 68.2                        |
| 0.078 - 0.156         | 5.0              | 0.113                    | 0.116                    | 15.2                | 22.7                   | 90.9                        |
| 0.312 - 0.625         | 2.0              | 0.377                    | 0.380                    | 17.8                | 9.1                    | 100.0                       |

TOTAL NUMBER OF FEET = 22.0

## STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

## POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

| POROSITY<br>CUT OFF | FEET<br>LOST | CAPACITY<br>LOST (%) | FEET<br>REMAINING | CAPACITY<br>REMAINING (%) | ARITH<br>MEAN | MEDIAN |
|---------------------|--------------|----------------------|-------------------|---------------------------|---------------|--------|
| 0.0                 | 0.0          | 0.0                  | 22.0              | 100.0                     | 9.5           | 12.7   |
| 2.0                 | 2.0          | 1.2                  | 20.0              | 98.8                      | 10.3          | 13.3   |
| 4.0                 | 8.0          | 9.4                  | 14.0              | 90.6                      | 13.5          | 14.7   |
| 6.0                 | 10.0         | 13.8                 | 12.0              | 86.2                      | 15.0          | 15.0   |
| 8.0                 | 10.0         | 13.8                 | 12.0              | 86.2                      | 15.0          | 15.0   |
| 10.0                | 10.0         | 13.8                 | 12.0              | 86.2                      | 15.0          | 15.0   |
| 12.0                | 10.0         | 13.8                 | 12.0              | 86.2                      | 15.0          | 15.0   |
| 14.0                | 13.0         | 32.5                 | 9.0               | 67.5                      | 15.6          |        |
| 16.0                | 19.0         | 75.1                 | 3.0               | 24.9                      | 17.3          |        |
| 18.0                | 21.0         | 91.2                 | 1.0               | 8.8                       | 18.4          |        |
| 20.0                | 22.0         | 100.0                | 0.0               | 0.0                       |               |        |

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 208.4

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

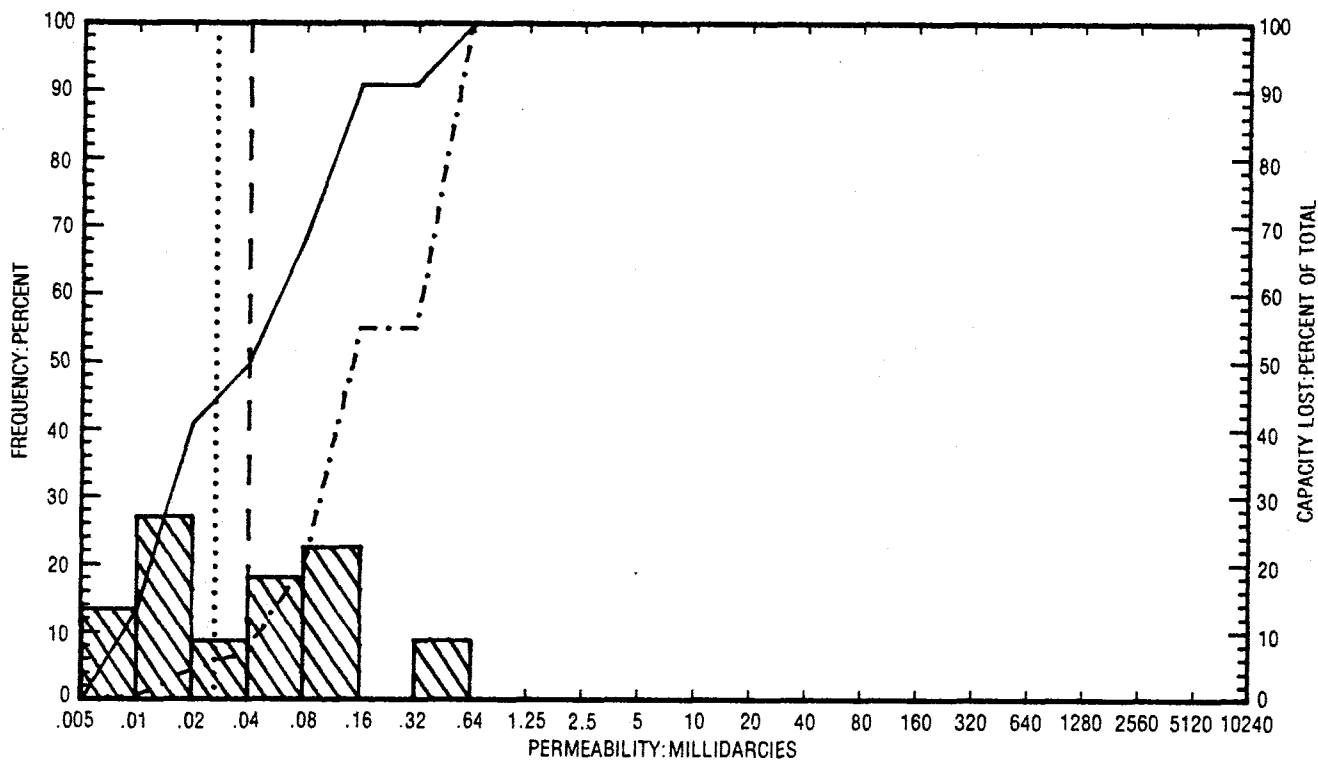
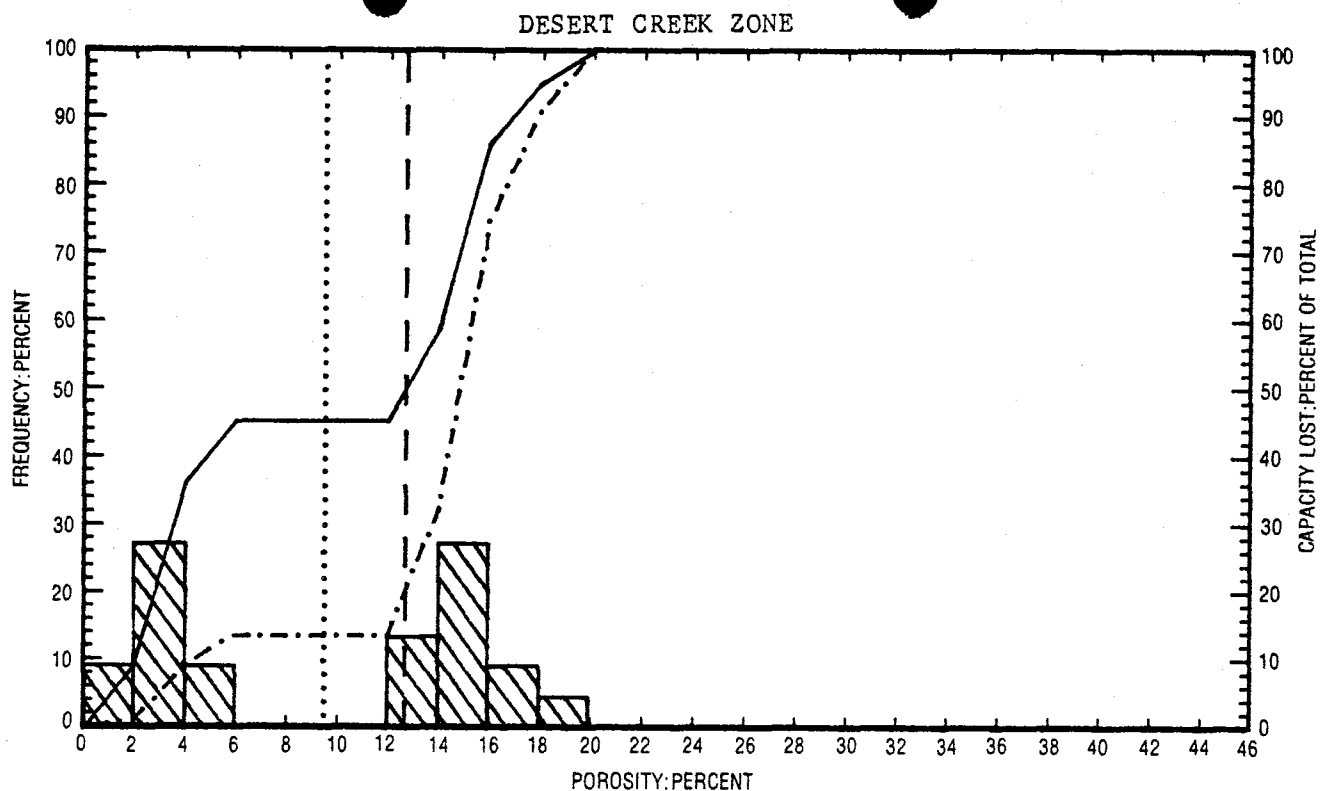
COMPANY: PHILLIPS PETROLEUM COMPANY  
FIELD : WILDCAT

WELL : ALKALI CREEK FED. # 1-5  
COUNTY, STATE: SAN JUAN, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

| PERMEABILITY<br>CUT OFF | FEET<br>LOST | CAPACITY<br>LOST (%) | FEET<br>REMAINING | CAPACITY<br>REMAINING (%) | GEOM<br>MEAN | MEDIAN |
|-------------------------|--------------|----------------------|-------------------|---------------------------|--------------|--------|
| 0.005                   | 0.0          | 0.0                  | 22.0              | 100.0                     | 0.03         | 0.04   |
| 0.010                   | 3.0          | 0.9                  | 19.0              | 99.1                      | 0.04         | 0.05   |
| 0.020                   | 9.0          | 4.5                  | 13.0              | 95.5                      | 0.08         | 0.08   |
| 0.039                   | 11.0         | 7.5                  | 11.0              | 92.5                      | 0.11         | 0.10   |
| 0.078                   | 15.0         | 20.1                 | 7.0               | 79.9                      | 0.16         |        |
| 0.156                   | 20.0         | 55.0                 | 2.0               | 45.0                      | 0.38         |        |
| 0.312                   | 20.0         | 55.0                 | 2.0               | 45.0                      | 0.38         |        |
| 1.                      | 22.0         | 100.0                | 0.0               | 0.0                       |              |        |

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET(ARITHMETIC) = 1.66



### PERMEABILITY AND POROSITY HISTOGRAMS

**PHILLIPS PETROLEUM COMPANY**  
**ALKALI CREEK FED. # 1-5**  
**WILDCAT**  
**SAN JUAN, UTAH**

**LEGEND**

|                             |           |
|-----------------------------|-----------|
| ARITHMETIC MEAN POROSITY    | .....     |
| GEOMETRIC MEAN PERMEABILITY | .....     |
| MEDIAN VALUE                | -----     |
| CUMULATIVE FREQUENCY        | —————     |
| CUMULATIVE CAPACITY LOST    | - - - - - |

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**CORE LABORATORIES, INC.****Petroleum Reservoir Engineering**

COMPANY PHILLIPS PETROLEUM COMPANY FILE NO. 38030-003456  
 WELL ALKALI CREEK FED. # 1-5 DATE 1-OCT-1986 ENGRS. DS;SP  
 FIELD WILDCAT FORMATION PARADOX ELEV. 5075 GL  
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES \_\_\_\_\_

# CoRes Log

## CORE and RESISTIVITY EVALUATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted) but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proven operation or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

RESISTIVITY PARAMETERS:  $a = 1.0$   $m = 2.0$   $n = 2.0$  Depths 6075.0 to 6105.0  
 $a = 1.0$   $m = 2.0$   $n = 2.0$  Depths 6205.0 to 6234.0

PERMEABILITY  
MILLIDARCIES

CORE ANALYSIS CALCULATED RESISTIVITY

$R_0$  = OHM-METERS AT 100%  $S_w$  \_\_\_\_\_

$R_{mp}$  = OHM-METERS AT CRITICAL  $S_w$  \_\_\_\_\_

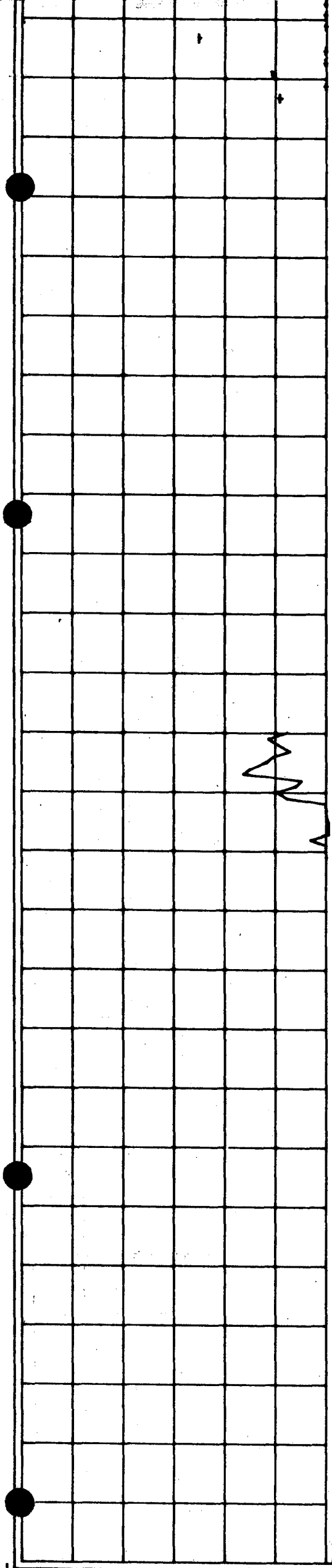
DEPTH  
FEET

1000 100 10 1.0 0.1 0.01

6050

← ONE OHM-METER REFERENCE FOR  $R_w = 0.01$

LOWER ISMAY ZONE



6100

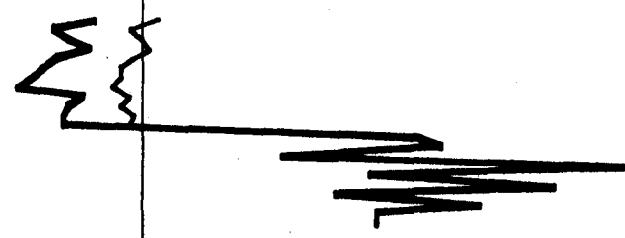
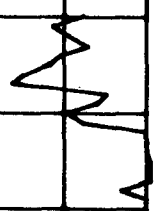
6150

6200

6250

6300

6350



DESERT CREEK ZONE



**CORE LABORATORIES, INC.***Petroleum Reservoir Engineering*COMPANY PHILLIPS PETROLEUM COMPANYFILE NO. 38030-003456WELL ALKALI CREEK FED. # 1-5DATE 1-OCT-1986FIELD WILDCATFORMATION PARADOXELEV. 5075 GLCOUNTY SAN JUAN STATE UTAHDRLG. FLD. WBM

CORES \_\_\_\_\_

LOCATION NW, SE SEC. 5-T30S-R24E**CORRELATION COREGRAPH**

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc., (all errors or omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

**Gamma Ray**

RADIATION INCREASE →

**PARADOX FORMATION**

**LOWER ISMAY ZONE**  
c-1 6075-6105 (1' core loss)

**DESERT CREEK ZONE**  
c-2 6205-6234 (2' core loss)

**Permeability × 0.1**

MILLIDARCIES

100 10 1.0 .1

Depth  
Feet

6050

**Porosity** \_\_\_\_\_

PERCENT

30 20 10

**Total Water** \_\_\_\_\_

PERCENT PORE SPACE

100 80 60 40 20 0

**Oil Saturation** \_\_\_\_\_

PERCENT PORE SPACE

0 20 40 60 80 100

6100

DRILLED

6150

DRILLED

6200

6250

6300

6350

# FILING FOR WATER IN THE STATE OF UTAH

102115

Rec. by CY  
Fee Paid \$ 15.00  
Platted 21155  
Microfilmed \_\_\_\_\_  
Roll # \_\_\_\_\_

## APPLICATION TO APPROPRIATE WATER

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

WATER USER CLAIM NO. 09 - 1484

APPLICATION NO. T62088

1. PRIORITY OF RIGHT: September 29, 1986FILING DATE: September 29, 19862. OWNER INFORMATION

Name: Phillips Petroleum Company  
Address: 8055 East Tufts Avenue, Denver, CO 80237  
The land is not owned by the applicant(s), see explanatory.

RECEIVED

OCT 02 1986

3. QUANTITY OF WATER: 1.03 acre feet (Ac. Ft.)WATER RIGHTS  
SALT LAKE

4. SOURCE: Subsurface flow of San Juan River DRAINAGE: San Juan River  
POINT(S) OF DIVERSION: COUNTY: San Juan

(1) S. 950 feet, W. 148 feet, from the NE Corner of Section 05,  
Township 41 S, Range 24 E, SLB&M

Description of Diverting Works: 16 inch diameter well 26 ft.

COMMON DESCRIPTION: 13 miles SE of Bluff, Utah

5. NATURE AND PERIOD OF USE

Oil Exploration From September 10 to October 10.

43.037.31237

6. PURPOSE AND EXTENT OF USE

Oil Exploratio: Exploration drilling

7. PLACE OF USE

The water is used in all or parts of each of the following legal subdivisions.

| TOWN RANGE SEC | North East Quarter |                  |                  |                  | North West Quarter |                  |                  |                  | South West Quarter |                  |                  |                  | South East Quarter |                  |                  |                  |
|----------------|--------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|--------------------|------------------|------------------|------------------|
|                | NE $\frac{1}{4}$   | NW $\frac{1}{4}$ | SW $\frac{1}{4}$ | SE $\frac{1}{4}$ | NE $\frac{1}{4}$   | NW $\frac{1}{4}$ | SW $\frac{1}{4}$ | SE $\frac{1}{4}$ | NE $\frac{1}{4}$   | NW $\frac{1}{4}$ | SW $\frac{1}{4}$ | SE $\frac{1}{4}$ | NE $\frac{1}{4}$   | NW $\frac{1}{4}$ | SW $\frac{1}{4}$ | SE $\frac{1}{4}$ |
| 39 S 24 E 05   |                    |                  |                  |                  |                    |                  |                  |                  |                    |                  |                  |                  |                    |                  | X                |                  |

All locations in Salt Lake Base and Meridian

1-5

EXPLANATORY

Water will be used as make-up water for drilling fluids for drilling the Alkali Creek Federal #1-5 Well in San Juan County. This exploratory well will determine the presence or absence of commercial oil and/or gas deposits. The point of diversion from the source is as defined in Application #32773 (approved September, 1961). That permanent permit allowed use of underground water and subsurface flow of the San Juan River as recovery purposes in the Ratherford portion of the Greater Aneth area oil fields. This temporary permit application requests approval to draw water from a fresh water tank at the same diversion site for use in the Alkali Creek Federal #1-5 exploratory well.

Appropriate

| DEPTH           | SAMPLE DESCRIPTIONS   |
|-----------------|---|
| 5920 - 5925     | Anhy: sft, lt yel to wh, cry-xln. Ismay Fm.   |
| 5925 - 5940     | Ls: med to dk gry, cry-xln, arg, no vis. Ø.   |
| 5940 - 5945     | Anhy: A.A.  |
| 5945 - 5960     | Anhy: A.A. interbedded and<br>Ls: A.A.  |
| 5960 - 5990     | Anhy: wh, xln, sft, interbd w/<br>Dol: wh to lt tn, f xln, poor (anhy plugged) Ø,<br>unidentified foss.         |
| 5990 - 6000     | Dol: wh to v lt tn, f xln, unidentified foss, anhy<br>plugged Ø.  |
| 6000 - 6010     | Ls: dk br to blk, v shy, poor Ø.  |
| 6010 - 6040     | Ls: med gry, mcr-xln, sli arg, poor Ø.  |
| 6040 - 6050     | Ls: med to dk gry, mcr-xln, arg, poor Ø.  |
| 6050 - 6060     | Sh: blk, fis, hi org, tr mica.  |
| 6075 - 6080     | Anhy: bd, wh to gry, xln, shy ip.   |
| 6080 - 6082.5   | Anhy: nod in mtrx of<br>Dol: lt tn-gry, f xln 50/50.  |
| 6082.5 - 6086   | Dol: lt gry, f xlline, arg, poor Ø w/ 10%<br>Anhy: nod, wh, xln.  |
| 6086 - 6088     | Dol: lt gry, f to vf xln, arg, poor Ø.  |
| 6088 - 6089.5   | Dol: med gry, vf xln, v arg, no Ø.  |
| 6089.5 - 6096.6 | Sh: blk, hi org.  |
| 6096.6 - 6099   | Dol: med gry, micr-xln, arg, poor vis Ø, sli calc, inc<br>downwards.  |
| 6099 - 6120     | Anhy: nod, wh in mtrx of<br>Ls: lt gry-tn. Ls mtrx inc w/ depth.  |
| 6120 - 6150     | Sh: dk brn to blk, blk to sbfis,<br>sbang, sl slty to slty (incr slt w/ depth), org,<br>occ w/ mica. Gothic Sh. |
| 6150 - 6158     | Ls: lt gr, calc, arg to slty. Desert Creek Fm.  |
| 6158 - 6205     | Ls: brn gry to dk gry, arg to v arg and blk.  |

DEPTH

SAMPLE DESCRIPTIONS Cont.

---

|                |  |
|----------------|--|
| 6205 - 6208.75 | Anhy: med gry, mass, sli calc, no vis Ø.   |
| 6208.75 - 6227 | Ls: dk gry-brn, arg to v arg, no vis Ø.<br>Tr slt sized mica (rare below 6215).<br>occ grad into calc lam sh.<br>Macrofoss: brach & crin betw 6224-6233. |
| 6227 - 6233    | Ls: med gry, no vis Ø, sli arg.  |
| 6240 - 6260    | Sh: blk, calc. Chimney Rock Fm.  |
| 6260 - 6290    | Ls: gry arg, sug text.   |
| 6290 - T.D.    | Sa: Inferred from drilling rate - no samples to surface. Akah Salt.  |

# CODE DESCRIPTION

PAGE \_\_\_\_ OF \_\_\_\_

DATE: **Sept. 27, 86**

WELL: **ALKALI CREEK FED. #1-5 LOC. Sec. 5-T39S-R24E**

CORE NO. **1**

DESCRIBED BY: \_\_\_\_\_

DIAM: \_\_\_\_\_

FOOTAGE: **6075-6105**

**J. GRANNIS**

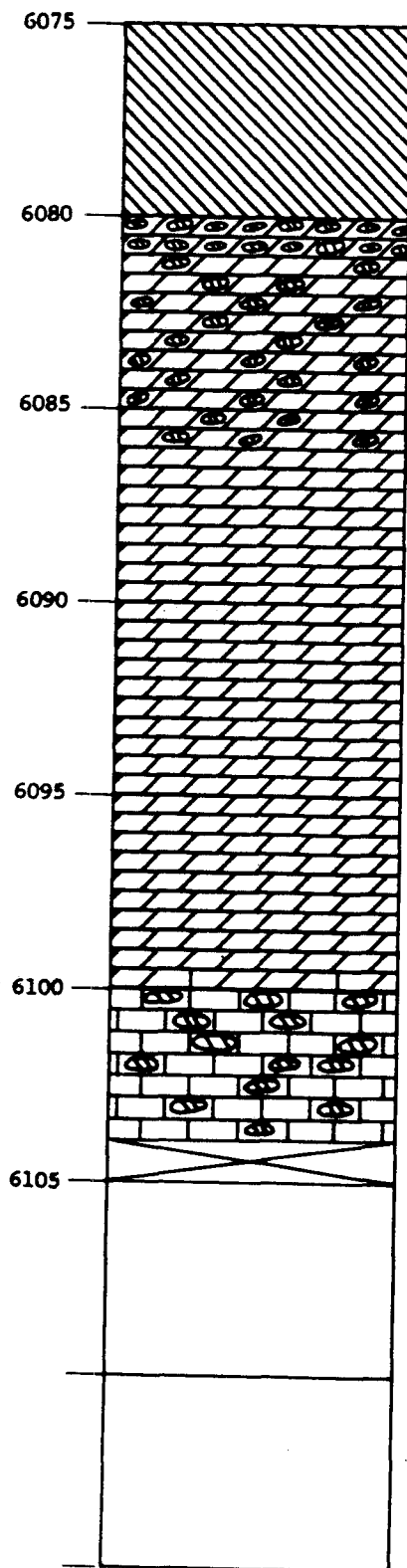
SCALE: **1" = 5'**

CUT: **30'**

**CONVENTIONAL CORE**

RECOVERED: **29'**

**BIT-hrs.**



Lower Ismay Zone (6075-

6075 - 6080 Bedded anhydrite: white to grey, crystalline, shaley in part.

6080 - 6082.5 Nodular anhydrite: white to grey, crystalline in a dolomite matrix, light tan to grey, finely crystalline, poor porosity; 50% anhydrite, 50% dolomite.

6082.5 - 6086 Dolomite: light grey, finely crystalline, argillaceous, poor porosity with 10% white crystalline anhydrite nodules.

6086 - 6088 Dolomite: light grey, finely to very finely crystalline, argillaceous, poor porosity.

6088 - 6096.5 Dolomite: medium grey, very finely crystalline, very argillaceous, no vis. porosity.

Core chips 6081-82 and 6082-83: no stain, no fluorescence, but weak residual cut.

6096.5 - 6096.6 Shale: black, highly organic.

6096.6 - 6099 Dolomite: med. grey, f. crystalline, arg., poor porosity, sl. calcareous (increasing downwards).

6099 - 6104 Anhydrite: nodular, white crystalline in limestone matrix. Light grey to tan, microcrystalline, rarely fossiliferous, poor porosity.

Grading from 60% anhydrite, 40% Limestone @ 6099 to 30% anhydrite, 70% Limestone, 30% anhydrite @ 6104.

# CORE DESCRIPTION

PAGE \_\_\_\_\_ OF \_\_\_\_\_

DATE: **Sept. 28, 86**

WELL: **ALKALI CREEK FED. #1-5 LOC. Sec. 5-T39S-R24E**

CORE NO. **2**

DESCRIBED BY: \_\_\_\_\_

DIAM: \_\_\_\_\_

FOOTAGE: **6205-6234**

**H.BIENKOWSKI**

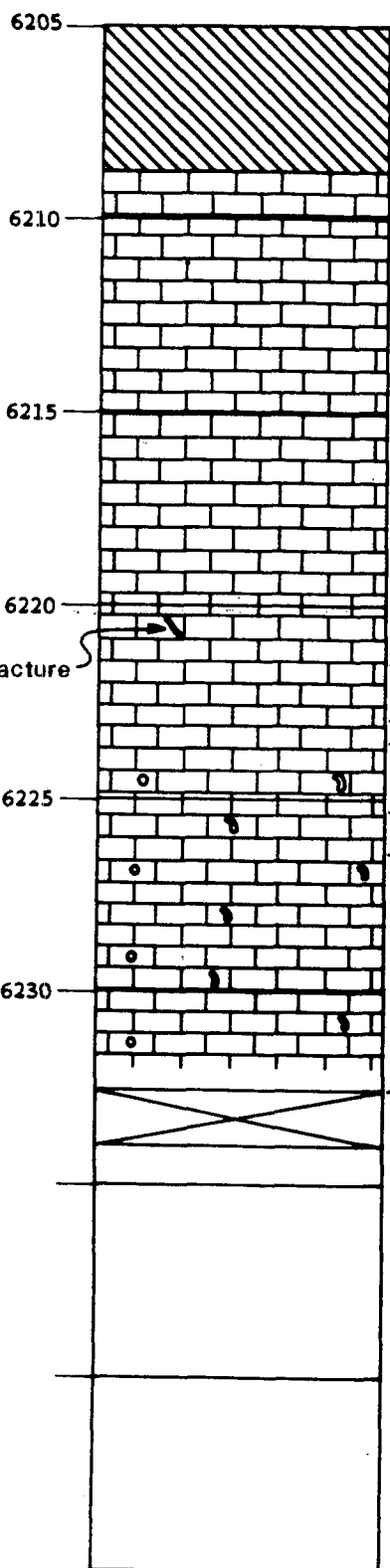
SCALE: **1" = 5'**

CUT: **29'**

**CONVENTIONAL CORE**

RECOVERED: **27'-7"**

**BIT-hrs.**



## Desert Creek Zone

6205 - 6208.75 Anhydrite: med grey, massive, slightly calcareous, no vis. porosity.

6206 - 6208.75 Core pinpoint porosity with oil stains.

6208.75 - 6227 Limestone: dark grey - brown, argillaceous to very argillaceous, no vis. porosity. Trace silt sized mica (rare below 6215), fossiliferous: brachiopods: crinoids below 6224.

6210.3 - 6210.6 Pinpoint porosity with bleeding oil.

6210.3 - 6221.4 Light, continuous, diffused oil stain, petroliferous odor common, no. vis. porosity except as noted for 6210.3 - 6210.6

6221.6 - 6223 Core pinpoint porosity with bleeding oil, matrix not stained.

6227 - 6233 Limestone: med grey, no visible porosity, slightly.

6223.7 - 6225.1 Spotty oil stain.

6227 - 6232' 7" Limestone: med grey, no visible porosity, slightly argillaceous, fossiliferous AA.

6226' 5" to 6232' 7" no vis. porosity except rare pinpoints and rare sub horizontal 1/4 to 1/2" fractures (intersections with fossile?), both of which bled oil. Petroliferous odor throughout. Rare large fractures filled with dead oil. Core fluorescence restricted to this zone: a weak diffused milky cut. This fluorescence could only be seen on freshly acidized samples.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☐

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

P. O. Box 2920 Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

2130' FSL, 2100' FEL (NWSE)

At proposed prod. zone

4303731237

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 17 miles North of Montezuma Creek, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

2130' North

of lease line

16. NO. OF ACRES IN LEASE

1320 Acres

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

1st well on

lease

19. PROPOSED DEPTH

6400'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

160 Acres

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5064 Ungraded Ground

22. APPROX. DATE WORK WILL START\*

1st Quarter 1986

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE  | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT                  |
|---------------|----------------|-----------------|---------------|-------------------------------------|
| 17-1/2"       | 13-3/8"        | 48#             | 100'          | 180 cu. ft. (Circ to surface-150sx  |
| 12-1/4"       | 9-5/8"         | 36#             | 1600'         | 1200 cu. ft. (Circ to surface-1035s |
| 7-7/8"-8-3/8" | 7"             | 23# & 26#       | 6400'         | 1430 cu. ft. (TOC Approx 2000'-1212 |

RECEIVED  
FEB 10 1986

DIVISION OF  
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measurements and preventer program, if any.

24.

SIGNED

*P. G. Gill*

TITLE Area Manager

DATE December 17, 1985

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

/s/ GENE NODINE

TITLE

DISTRICT MANAGER

DATE

FEB 06 1986

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

\*See Instructions On Reverse Side

FLARING OR VENTING OF  
GAS IS SUBJECT OF NTL 4-A  
DATED 1/1/80

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

STATE OF UTAH- DOGM

COMPANY PHILLIPS PETROLEUM COMPANY

LEASE ALKALI CREEK-FEDERAL WELL NO. 1-5

SEC. 5, T. 39S, R. 24E

County: San Juan State: Utah

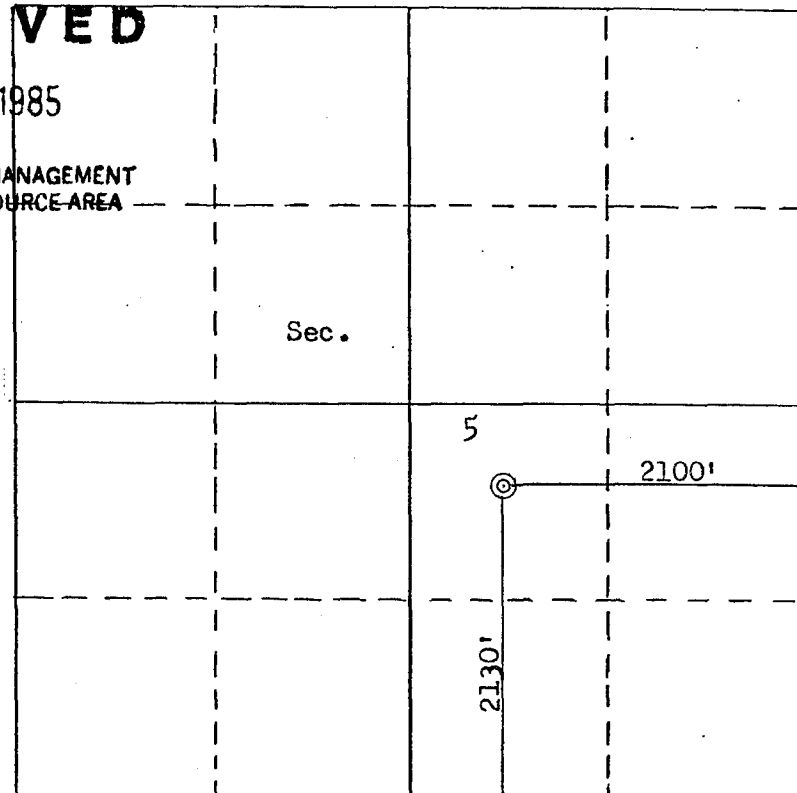
LOCATION 2130'FSL 2100'FEL

ELEVATION 5064 ungraded ground

**RECEIVED**

DEC 16 1985

BUREAU OF LAND MANAGEMENT  
FARMINGTON RESOURCE AREA

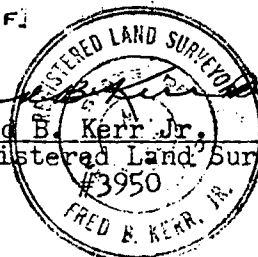


SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM  
FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPER-  
VISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

REALT

Fred B. Kerr Jr.  
Registered Land Surveyor



SURVEYED October 30, 1985

Phillips Petroleum Company  
Well No. Alkali Creek Federal 1-5  
Sec. 5, T. 39 S., R. 24 E.  
San Juan County, Utah  
Lease U-56929

CONDITIONS OF APPROVAL

A. DRILLING PROGRAM

Surface casing will be set through the Wingate formation and not at 1600' as proposed.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Office. If operations are to be suspended, prior approval of the District Office will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the Area Office within a minimum of 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within 24 hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

In accordance with Onshore Order No. 1 this well will be reported on Form 3160-6, "Monthly Report of Operations", starting with the month in which operations commence and continued each month until the well is plugged and abandoned. This report will be sent to the District Office, P.O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Area Office in accordance with requirements of NTL-3A.

If a replacement rig is needed for completion operations, A Sundry Notice (Form 3160-5) to that effect will be filed for prior approval from the District Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergency situations verbal approval to bring on a replacement rig will be approved through the District Office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the District Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Moab District Manager.

If the well is to be completed for production the Area Office is to be contacted in order to set up a pre-production conference. When the well is placed in a producing status the District Office is to be notified by telegram or other written communication within five working days.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

No well abandonment operations will be commenced without the prior approval of the District Office. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Office. A Subsequent Report of Abandonment (Form 3160-5) will be sent to the District Office within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Area Office, or the appropriate surface managing agency. Upon completion of approved plugging, a dry hole marker will be erected in accordance with 43 CFR 3162.6. The top of the marker will be closed or capped. The following minimum information will be permanently placed on the marker; "Fed" or "Ind", as applicable, "Lease number", "Well number", location of well by 1/4 1/4 section, township, and range.

Your contact with the District Office is:

Greg Noble, Petroleum Engineer Office Phone: (801) 259-6111 Ext 229

Home Phone: (801) 259-8811

District Address:

82 East Dogwood, P.O. Box 970  
Moab, Utah 84532

Bureau of Indian Affairs  
Surface Management Stipulations  
To Be Included in APD

Company Phillips Petroleum  
Well# Alkali Creek Federal 1-5  
Date of Inspection 11-20-85  
Provided by Carlos Salazar



STIPULATIONS CHECKED  
APPLY

1. All above ground structures and equipment will be painted with the following non-glare color.

|   |                      |                     |
|---|----------------------|---------------------|
| <u>Brown</u>                                    | <u>Fed. Standard</u> | <u>595a - 30318</u> |
| <u>Green</u>                                    | <u>Fed. Standard</u> | <u>595a - 34127</u> |
| <u>Gray</u>                                     | <u>Fed. Standard</u> | <u>595a - 36357</u> |
| <input checked="" type="checkbox"/> <u>Sand</u> | <u>Fed. Standard</u> | <u>595a - 30277</u> |
| <u>Mobil Beige 12-F-38</u>                      |                      |                     |

2. Compacted areas will be plowed or ripped to a depth of 12 to 16 inches before reseeding. Seed will be drilled to a depth of .5 to .75 inch or broadcast and followed by a drag or packer. If broadcast, the recommended seed mix will be applied at 150% of the recommended rate. The following seed mix will be used.

| <u>SPECIES</u>             | <u>lbs./acre/PLS</u> |
|----------------------------|----------------------|
| Crested Wheatgrass.....    | <u>4</u>             |
| Slender Wheatgrass .....   |                      |
| Smooth Brome .....         |                      |
| Orchardgrass .....         |                      |
| Yellow Sweetclover .....   |                      |
| Sainfoin .....             |                      |
| Western Wheatgrass .....   |                      |
| Sand Dropseed .....        |                      |
| Alkali Sacaton .....       |                      |
| Indian Ricegrass .....     |                      |
| Galleta .....              | <u>2</u>             |
| Needle-N-Thread .....      |                      |
| Squirrel tail .....        |                      |
| Side Oats Grama .....      |                      |
| Four-Wing Saltbush.....    | <u>2</u>             |
| Shadscale .....            |                      |
| Cliffrose .....            |                      |
| Antelope Bitterbrush ..... | <u>1</u>             |
| Timothy .....              |                      |
| Winter-Fat .....           |                      |

(Purity x Germination = PLS)

3. ☒ The top 10 inches of soil will be salvaged, stockpiled, and stabilized on the W side/corner of the well pad and/or in the "L" corner of the well pad and reserve pit for use in revegetating the site.
4.      Upon abandonment, the well pad will be fenced with a standard five-strand barb wire fence, or equivalent and will have no gates. The fence will be maintained for two years to allow for seeding establishment and will then be removed.

5. ☒ Access roads not needed for through traffic will be barricaded and reseeded in accordance with #2. Water bars will be constructed to the following specifications.

% Slope

Slope Distance

|                  |          |
|------------------|----------|
| Less than 1%     | 300 feet |
| 1% - 5%          | 200 feet |
| 5% - 15%         | 100 feet |
| Greater than 15% | 50 feet  |

6. ☒ An earthen berm (18 inches/foot high) will be constructed around the perimeter of the well pad, except on the high/cut side of the well pad.
7. ☐ The reserve pit will be lined to prevent seepage from occurring.
8. ☒ The reserve pit will be constructed long and narrow (75 x 150 feet) so that the pit can be accommodated and any potential hazards reduced or eliminated.
9. ☐ Immediately following drilling, the fluids of the reserve pit will be pumped and disposed of per BLM instructions. A sundry notice for this action is required by BLM.
10. ☐ Diversion ditch (es) will be constructed on the ☐ side of the well pad above/below (circle one) the cut slope diverting any runoff to the ☐.
11. ☒ The wash (es) will be diverted around the ☐ side of the well pad.  
*Drainage on north side of location will be diverted further north into an existing drainage*
12. ☐ Culvert(s) of sufficient size will be placed on all drainage crossings of the access road determined necessary during the on-site inspection. ☐
- 
13. ☒ No production flowlines nor gas sales lines will be constructed until their right-of-ways/easements are inspected and approved by the surface management agency.
14. ☐ Any flowline (s) (surface/subsurface) will be constructed paralleling new and existing road right-of-ways, except ☐.
- 
15. ☐ The top ☐ inches of soil of any subsurface flowline constructed will be rolled/scraped to one side of the bladed line and will be disturbed as little as possible during the actual construction. Immediately following installation, the roll of topsoil salvaged will be redistributed over the bladed line and will be reseeded in accordance with item# 2. In addition to this, all areas disturbed (including the replaced topsoil) will be imprinted with a land imprinter or sheep's foot type roller to create a pattern of small depressions to enhance vegetative regrowth. All drainages crossed by these line (s) will be restored, as near as possible, to their original form. Water bars will be constructed in accordance with item# 5.
16. ☐ Fence (s) crossed by the access road will be braced and tied off before cutting of the wires to prevent slackening of the fencelines. Both a gate and cattleguard which must be BIA approved will be installed.

17. ☒ Storage tank (s) installed on the location will be surrounded by a dike of sufficient capacity to contain  $1\frac{1}{2}$  times the storage capacity of the tank (s).
18. ☐ The stipulations set forth in the archeological clearance letter dated 7 / will be strictly adhered to. Clearance No.
19. ☐ Upon abandonment, all material brought in to plate the surface of the well pad and/or the access road will be cleaned up and disposed of prior to re-seeding.
20. ☐ The construction work conducted at this location will need to be inspected before the drill rig is moved on the location.

ALL CHANGES/DEVIATIONS MADE FROM THE APPROVED APD MUST BE CLEARED AND APPROVED BY THE SURFACE MANAGEMENT AGENCY. THE SURFACE MANAGEMENT AGENCY CAN BE CONTACTED AT (505) 368-4316.

OTHER:

- 1) Reclamation will be in accordance with BIA requirements.
- 2) Trees uprooted will be stockpiled and left for firewood.
- 3) Operator will make certain that no access to this location is left following plug and abandonment.

EXPRESS MAIL ROUTING SLIP

PAM  
TAMI  
VICKY  
CLAUDIA  
STEPHANE  
CHARLES  
RULA  
MARY ALICE  
CONNIE  
MILLIE

|      |            |
|------|------------|
| 2-13 | 9:00       |
| 2-13 | 10:00      |
|      | 10:25 NC   |
| 2-13 | 12:10 C    |
| 2-14 | 8:25 D     |
| CD   | 2-13 10:38 |
| Rm   | 2-14 9:40  |
| MAP  | 2-14 10:39 |
| CD   | 2-14 1041  |

092267

## DIVISION OF OIL, GAS AND MINING

SPODDING INFORMATION

API #43-037-31237

NAME OF COMPANY: PHILLIPS PETROLEUMWELL NAME: ALKALINE CREEK FED. 1-5SECTION NW SE 5 TOWNSHIP 39S RANGE 24E COUNTY San JuanDRILLING CONTRACTOR L. C. JonesRIG #                     SPUDDED: DATE 9-10-86TIME                     How Dry Hole DiggerDRILLING WILL COMMENCE 9-13-86 - Four Corner Rig #9REPORTED BY Barry MorganTELEPHONE # 303-850-3000DATE 9-18-86 SIGNED RJF



# PHILLIPS PETROLEUM COMPANY

DENVER, COLORADO 80237-2898  
8055 EAST TUFTS AVENUE PARKWAY, PHONE: 303 850-3000

CONFIDENTIAL INFORMATION

GEOLOGICAL WELL REPORT  
PHILLIPS PETROLEUM COMPANY  
ALKALI CREEK FED #1-5  
SEC. 5, T39N, R24E  
SAN JUAN CO., UTAH

Report by: L. Kawe, J. Grannis,  
H. Bienkowski  
Geologist  
Phillips Petroleum Company  
8055 E. Tufts Avenue Parkway  
Denver, CO 80237  
September 30, 1986

HGB13.1086.11

WELL DATA

---

OPERATOR: Phillips Petroleum Company  
WELL NAME: Alkali Creek Fed #1-5  
LOCATION: C NW SE Sec. 5, T39S-R24E  
COUNTY & STATE: San Juan Co., Utah  
GROUND ELEVATION: 5,068' - RKB 5,079'  
GEOLOGIST(S): L. Kawe, J. Grannis, H. Bienkowski  
ENGINEER(S): J. B. Morgan  
DRILLING SUPERINTENDENT(S): Roman Piernick  
COMMENCED DRILLING: September 13, 1986  
CEASED DRILLING: September 29, 1986  
CONTRACTOR: Four Corners Drilling Rig #9  
TOOL PUSHER: Larry Martinez  
DRILLING FLUID: Low Solids Non-Dispersed Gel Based  
SURFACE CASING: 9 5/8" @ 2,223'  
BIT SIZE: 8 1/2"  
SAMPLES: 30' samples to 5,000', 10' samples to TD  
MUD LOGGING: G.E.O. (Analex)  
MUD LOGGER(S): Jonathon White, Roger Hausen  
LOGGING: Welex  
LOGGING ENGINEER(S): Steve Hash  
TOTAL DEPTH: 6,304 Welex  
STATUS: P&A

MUD RECORD

| <u>DATE</u> | <u>TIME</u> | <u>DEPTH</u> | <u>WT.</u> | <u>VIS</u> | <u>PH</u> | <u>WL</u> | <u>CL</u> | <u>CUM COST</u> |
|-------------|-------------|--------------|------------|------------|-----------|-----------|-----------|-----------------|
| 9/16/86     | 6 am        | 2223         | Water      |            |           |           |           |                 |
| 9/17        | 6 am        | 2600         | 8.4        | 34         | 12.5      | 34        | 250       | \$ 1,299        |
| 9/18        | 6 am        | 3500         | 8.9        | 33         | 11.5      | 12        | 3,600     | 1,732           |
| 9/19        | 6 am        | 4032         | 9.1        | 32         | 11.5      | 12        | 6,800     | 2,029           |
| 9/20        | 6 am        | 4440         | 9.2        | 32         | 10.5      | 14        | 16,000    | 2,536           |
| 9/21        | 6 am        | 4824         | 9.2        | 30         | 10.5      | 10        | 15,000    | 3,721           |
| 9/22        | 6 am        | 5098         | 9.2        | 32         | 10.5      | 8.8       | 12,000    | 5,012           |
| 9/23        | 6 am        | 5390         | 9.2        | 33         | 11.5      | 10.0      | 10,500    | 6,088           |
| 9/24        | 6 am        | 5624         | 9.2        | 34         | 11.0      | 10.6      | 10,000    | 6,766           |
| 9/25        | 6 am        | 5747         | 9.3        | 37         | 10.5      | 10.2      | 9,700     | 7,060           |
| 9/26        | 6 am        | 6027         | 9.4        | 34         | 11.5      | 9.4       | 11,800    | 7,993           |
| 9/27        | 6 am        | 6105         | 9.4        | 40         | 11.0      | 5.2       | 11,000    | 8,680           |
| 9/28        | 6 am        | 6205         | 9.5        | 40         | 10.5      | 6.8       | 11,000    | 9,020           |
| 9/29        | 6 am        | 6275         | 9.5        | 37         | 10.0      | 8.0       | 13,200    | 9,460           |
| 9/30        | 6 am        | 6310         | 9.5        | 39         | 11.5      | 7.5       | 13,200    | 10,226          |

DEVIATIONS

| <u>DEPTH</u> | <u>DEGREE</u> |
|--------------|---------------|
| 70'          | 1             |
| 135'         | 1             |
| 227'         | 1             |
| 318'         | 1             |
| 380'         | 1/2           |
| 470'         | 1/4           |
| 781'         | 3/4           |
| 874'         | 3/4           |
| 1029'        | 1             |
| 1151'        | 3/4           |
| 1243'        | 1/2           |
| 1463'        | 3/4           |
| 1617'        | 1/2           |
| 1897'        | 3/4           |
| 2151'        | 3/4           |
| 2200'        | 1             |
| 2354'        | 1 1/4         |
| 2634'        | 3/4           |
| 3137'        | 3/4           |
| 3637'        | 3/4           |
| 4111'        | 1/2           |
| 4612'        | 1/4           |
| 5113'        | 3/4           |
| 5613'        | 3/4           |
| 6068'        | 1/2           |
| 6205'        | 1/4           |
| 6307'        | 1/4           |

WELL HISTORY

| <u>DATE</u> | <u>TIME</u> | <u>DEPTH</u> | <u>OPERATION</u>      |
|-------------|-------------|--------------|-----------------------|
| 9/15/86     | 6 am        | 2223         | Running casing        |
| 9/16        | 6 am        | 2223         | Nipple up BOPs        |
| 9/17        | 6 am        | 2600         | Drilling              |
| 9/18        | 6 am        | 3500         | Drilling              |
| 9/19        | 6 am        | 4032         | Drilling              |
| 9/20        | 6 am        | 4440         | Drilling              |
| 9/21        | 6 am        | 4824         | Drilling              |
| 9/22        | 6 am        | 5098         | Drilling              |
| 9/23        | 6 am        | 5390         | Drilling              |
| 9/24        | 6 am        | 5624         | Test BOP              |
| 9/25        | 6 am        | 5747         | Drilling              |
| 9/26        | 6 am        | 6027         | Drilling              |
| 9/27        | 6 am        | 6105         | Coring L. Ismay       |
| 9/28        | 6 am        | 6205         | Coring Desert Creek   |
| 9/29        | 6 am        | 6304         | Running electric logs |

BIT RECORD

| <u>NO.</u> | <u>MFG</u> | <u>SIZE</u> | <u>TYPE</u> | <u>DEPTH</u><br><u>OUT</u> | <u>FOOTAGE</u> | <u>HRS</u><br><u>RUN</u> | <u>1000#</u><br><u>WT.</u> | <u>RPM</u> | <u>PUMP</u><br><u>PSI</u> |
|------------|------------|-------------|-------------|----------------------------|----------------|--------------------------|----------------------------|------------|---------------------------|
| 1          | RTC        | 12 1/4      | FP-52       | 2051                       | 1921           | 37 1/4                   | 35                         | 80         | 1500                      |
| 2          | STC        | 12 1/4      | F-2         | 2223                       | 172            | 6                        | 35                         | 80         | 1600                      |
| 3          | STC        | 8 1/2       | G-2         | 4280                       | 2057           | 60 1/2                   | 42                         | 75         | 1900                      |
| 4          | STC        | 8 1/2       | G-2         | 5624                       | 1344           | 89 3/4                   | 40                         | 75         | 1800                      |
| 5          | STC        | 8 1/2       | F-3         | 6075                       | 451            | 36 3/4                   | 40                         | 75         | 1800                      |
| 6          | Christ     | 8 1/2       | C201        | 6105                       | 30             | 8 1/2                    | 20                         | 60         | 1300                      |
| 7          | STC        | 8 1/2       | F-3         | 6205                       | 100            | 10 1/2                   | 40                         | 60         | 1800                      |
| 8          | Christ     | 8 1/2       | C201        | 6234                       | 29             | 11                       | 20                         | 60         | 1800                      |
| 9          | STC        | 8 1/2       | F-3         | 6307                       | 76             | 8 1/2                    | 45                         | 60         | 1800                      |

FORMATION TOPS

| FORMATION                  | ELECTRIC LOG | ELECTRIC LOG<br>ELEVATION | SAMPLES/<br>DRILLING CURVE |
|----------------------------|--------------|---------------------------|----------------------------|
| Shinarump                  | 2746         | 2333                      | 2774                       |
| Moenkopi                   | --           | --                        | 2880                       |
| DeChelly (Cutler Gr)       | 3066         | 2013                      | 2906                       |
| Organ Rock                 | 3163         | 1916                      | --                         |
| Honaker Trail (Hermosa Gr) | 4943         | 136                       | 5002                       |
| Upper Ismay                | 5913         | -834                      | 5920                       |
| Lower Ismay                | 6054         | -975                      | 6058                       |
| Gothic Shale               | 6109         | -1030                     | 6120                       |
| Desert Creek               | 6142         | -1063                     | 6150                       |
| Chimney Rock               | 6249         | -1170                     | 6260                       |
| Akah Salt                  | 6280         | -1201                     | 6290                       |

ELECTRIC LOG CALCULATIONS

| Formation    | Depth | RW  | RT  | Neutron<br>Porosity | Density<br>Porosity   | Avg. *<br>Porosity | SW   | Remarks                    |
|--------------|-------|-----|-----|---------------------|-----------------------|--------------------|------|----------------------------|
| Upper Ismay  | 5946  | .07 | 50  | 5.5 LPU             | -1 LPU<br>.273 g/cc   | 2.6                | 144% | Limey Dol.                 |
|              | 5952  | .07 | 33  | 10 LPU              | 2.5 LPU<br>.267 g/cc  | 6.1                | 76%  | Dol.                       |
| Lower Ismay  | 6080  | .07 | 11  | 12.5 LPU            | 5.3 LPU<br>.262 g/cc  | 9.8                | 81%  | Dol w/ anhy-<br>drate nod. |
|              | 6090  | .07 | 21  | 13.0 LPU            | 3.0 LPU<br>.266 g/cc  | 8.0                | 72%  | Dol.                       |
| Desert Creek | 6204  | .07 | 6.1 | 24 LPU              | 10.5 LPU<br>.253 g/cc | 15.1               | 71%  | Arg. Dolomite              |
|              | 6210  | .07 | 4.8 | 9.8 LPU             | 13.0 LPU<br>.249 g/cc | 16.1               | 75%  | Arg. Dolomite              |

\* Based on Crossplot.



PHILLIPS PETROLEUM COMPANY

DENVER, COLORADO 80237-2898  
8055 EAST TUFTS AVENUE PARKWAY, PHONE: 303 850-3000

RECEIVED  
DEC 22 1986

DIVISION OF  
OIL, GAS & MINING

DATA TRANSMITTAL

19 Dec '86

TO: State of Utah  
Natural Resources  
Oil, Gas, & Mining  
355 W. North Temple  
3 Quad Center, Ste 350  
Salt Lake City, UTAH 84180-120343 037 31237

RE: PPCO  
Alkali Creek Fed #1-5  
Sec 5 39S 24E  
San Juan, Utah

ENCLOSED PLEASE FIND COPIES OF THE FOLLOWING:

1.        Approved Well Permit
2. See Core Analysis/Core Description
3. N/A DST Chart/DST Report #
4.        Fluid Analysis (Gas, Water, Oil)
5.        Geological Prognosis and Drilling Program
6.        Survey Plat
7.        Well Completion Report
8.        Well History
9.        Well Permit Application
10. 2 Geological Well Report
11.        LOGS (Field Prints)        RUN #        DATE:
12. See LOGS (Final Prints) see below RUN #        DATE:

1- summary notice

2- mudlog

Contact caliper, spectral density dual spaced, Neutron  
long spaced delta T, dual quad micro quad.

PLEASE ACKNOWLEDGE RECEIPT BY SIGNING AND RETURNING THE ENCLOSED COPY TO THE ABOVE ADDRESS. THANK YOU.

Pat Bertuzzi  
Pat Bertuzzi - Development

rec'd  
12-22-86  
V

RECEIVED BY:         
EGD.P36-1

DATE:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☒ gas ☐  
well well other

## 2. NAME OF OPERATOR

Phillips Petroleum Co. (Attn: NWR Drilling)

## 3. ADDRESS OF OPERATOR

8055 E. Tufts Ave. Pkwy., Denver, CO 80237

## 4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)

AT SURFACE: 2130' FSL/2100' FEL

AT TOP PROD. INTERVAL:

AT TOTAL DEPTH:

## 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

## REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐CHANGE ZONES ☐ABANDON\* ☐(other) ☐

## SUBSEQUENT REPORT OF:

RECEIVED  
OCT 07 1986DIVISION OF  
OIL, GAS & MINING

NO Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*  
Drilled 17½" conductor hole to 120' G.L. on 9-10-86. Ran 119' 13-3/8" 54.5# ST&C R-3 Butt casing. Set at 120', cemented with 150 sx (177 cu.ft.) D-917 High Early cement to surface. Finished job and moved out rat hole driller 9-10-86.

Spudded well on 9-13-86 with Four Corners Drilling Rig #9. Drilled 12¼" hole to 2223'. Ran 9-5/8" 54.5# SS-95 casing, set at 2223'. Cemented with 585 sx (1058 cu.ft.) DS Liteweight 3 cement; tailed with 275 sx (325 ci.ft.) Class "B" cement. Circulated to surface, fell back, pumped 20 sx Class B as top job.

Drilled 8½" hole to 6310' and ran logs. P&A'ed well as follows:

Plug #1 5800-6310' w/235 sx Class B cement - AKAH, Chimney Rock, Desert Creek  
Plug #2 2800-2900' w/78 sx Class B cement - DeChelly & Ismay  
Plug #3 2100-2300' w/90 sx Class B cement - Surface Casing Shoe  
Plug #4 Surface Plug w/10 sx Class B cement.

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_ Set @ \_\_\_\_\_ Ft.

## 18. I hereby certify that the foregoing is true and correct

SIGNED

For

TITLE Drilling Manager DATE OCT. 2, 1986

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE 10-14-86

BY: John R. Bays

0+5-BLM Farmington

2- UTAH O&amp;GCC

1- Casper Phillips Office

1 - Well File (RC)

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-56929

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Alkali Creek Federal

9. WELL NO.

1-5

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 5-T39S-R24E

12. COUNTY OR PARISH

San Juan

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other \_\_\_\_\_

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other P&A'd

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

P. O. Box 2920, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with State requirements)\*

At surface 2130' FSL & 2100' FEL NW SE

At top prod. interval reported below

At total depth

DIVISION OF  
OIL, GAS & MINING

14. PERMIT NO.

DATE ISSUED

API #43-037-31237

15. DATE SPUDDED

9/13/86

16. DATE T.D. REACHED

9/29/86

17. DATE COMPL. (Ready to prod.)

P&A'd 10/1/86

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*

GR 5068', RKB 5079'

19. ELEV. CASINGHEAD

--

20. TOTAL DEPTH, MD & TVD

6310'

21. PLUG, BACK T.D., MD & TVD

--

22. IF MULTIPLE COMPL., HOW MANY\*

--

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

0 - 6310'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

Plugged & Abandoned 10/1/86

25. WAS DIRECTIONAL SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

LSDT, FWAT, VSP, ~~SDL-DSN~~, Dual Guard-Micro Guard, Contact Caliper

27. WAS WELL CORRED

Yes

28. CASING RECORD (Report all strings set in well)

| CASING SIZE | WEIGHT, LB./FT. | DEPTH SET (MD) | HOLE SIZE | CEMENTING RECORD   | AMOUNT PULLED   |
|-------------|-----------------|----------------|-----------|--|-----------------|
| 13-3/8"     | 54.5#           | 210'           | 17-1/2"   | 177 cu.ft. D-917 High Early                                    | --              |
| 9-5/8"      | 53.5#           | 2223'          | 12-1/4"   | 1058 cu.ft. DS Lite & 325 Cmt fell, pmpd 20 sx Class B on top. | cu.ft. Class B. |
|             |                 |                | 8-1/2"    |  |                 |

29. LINER RECORD

| SIZE | TOP (MD) | BOTTOM (MD) | SACKS CEMENT* | SCREEN (MD) | SIZE | DEPTH SET (MD) | PACKER SET (MD) |
|------|----------|-------------|---------------|-------------|------|----------------|-----------------|
| --   | --       | --          | --            | --          | --   | --             | --              |

31. PERFORATION RECORD (Interval, size and number)

P&A'd

Plugged As Follows:

78 sx Class B f/2900-

Plug #4 - 10 sx Class B to Surface.

sx cmt under marker and 5 sx over 9-5/8" csg stub.

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

| DEPTH INTERVAL (MD)            | AMOUNT AND KIND OF MATERIAL USED |
|--------------------------------|----------------------------------|
| Plug #1 - 235 sx               | Class B f/6310-5800'. Plug #2 -  |
| 2800'. Plug #3 -               | 90 sx Class B f/2300-2100'.      |
| Installed DH Marker. Placed 10 |                                  |

33.\* PRODUCTION

| DATE FIRST PRODUCTION |                 | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) |                         |          |            | WELL STATUS (Producing or shut-in) |               |
|-----------------------|-----------------|--|-------------------------|----------|------------|------------------------------------|---------------|
| --                    |                 | --   |                         |          |            | P&A                                |               |
| DATE OF TEST          | HOURS TESTED    | CHOKE SIZE   | PROD'N. FOR TEST PERIOD | OIL—BBL. | GAS—MCF.   | WATER—BBL.                         | GAS-OIL RATIO |
| --                    | --              | --   | →                       | --       | --         | --                                 | --            |
| FLOW. TUBING PRESS.   | CASING PRESSURE | CALCULATED 24-HOUR RATE  | OIL—BBL.                | GAS—MCF. | WATER—BBL. | OIL GRAVITY-API (CORR.)            |               |
| --                    | --              | →  | --                      | --       | --         | --                                 |               |

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

None

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

D. C. Gill

TITLE

Area Manager

DATE January 15, 1987

\*(See Instructions and Spaces for Additional Data on Reverse Side)

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

| FORMATION                               | TOP  | BOTTOM | DESCRIPTION, CONTENTS, ETC. | NAME   | TOP         |                  |
|---|------|--------|-----------------------------|--|-------------|------------------|
|   |      |        |                             |  | MEAS. DEPTH | TRUE VERT. DEPTH |
| CORE #1                                 | 6075 | 6105   | Cut 30', recovered 29'.     | <u>LOG TOPS</u><br><br>Shinarump<br>DeChelly<br>Organ Rock<br>Honaker Trail<br>Upper Ismay<br>Lower Ismay<br>Gothic Shale<br>Desert Creek<br>Chimney Rock<br>Akah Salt |             |                  |
| CORE #2                                 | 6205 | 6234   | Cut 29', recovered 27'.     |  |             |                  |
| <u>NO DST's RUN</u>                     |      |        |                             |  |             |                  |
| Distribution:                           |      |        |                             |  |             |                  |
| 4 - BLM, Farmington, NM                 |      |        |                             |  |             |                  |
| 2 - Utah O&G CC, Salt Lake City, UT     |      |        |                             |  |             |                  |
| 1 - M. Williams, 1370 POB, B'Ville      |      |        |                             |  |             |                  |
| 1 - J. A. Landrum r) G. W. Berk, Denver |      |        |                             |  |             |                  |
| 1 - T. L. Carten r) P. Bertuzzi, Denver |      |        |                             |  |             |                  |
| 1 - J. E. Lindemood, Denver             |      |        |                             |  |             |                  |
| 1 - D. L. Kennedy, Denver               |      |        |                             |  |             |                  |
| 1 - File RC                             |      |        |                             |  |             |                  |

38.

**CONNIE KRIVANEK**  
PETROLEUM GEOLOGIST



PETROLEUM EXPLORATION  
OF THE  
SOUTHERN ROCKIES

609 MESETA  
FARMINGTON, N.M.  
87401

PH: 505-327-3978

DIVISION OF STATE LANDS AND FORESTRY  
355 WEST NORTH TEMPLE  
3 TRIAD CENTER, SUITE 400  
SALT LAKE CITY, UT 84180-1204

February 5, 1988

RE: Phillips Petroleum Co.  
Sec 5 T39S-R24E San Juan Co. UT  
Alkali Creek Fed.

Gentlemen,

Please send me any drill stem test data you may have regarding the above well. Also, please send me copies of the plugging procedures on this well.

Sincerely,

*Connie M. Krivanek*  
Connie M. Krivanek

NO DST'S RUN  
COPY OF PA SENT  
2-18-88  
VC

February 17, 1988

Connie Krivanek  
Petroleum Geologist  
609 Meseta  
Farmington, NM  
87401

Dear Ms. Krivanek:

Please be advised that your letter of February 5, 1988, concerning drill stem test data on the Phillips Petroleum Company Well in Section 5, T39S, R24E, SLB&M., San Juan County, Utah, has been forwarded to the Division of Oil, Gas, and Mining for their response and handling.

If you have any further questions concerning this matter, please call this office.

Yours very truly,

EDWARD M. BONNER  
MINERALS SECTION MANAGER

EMB/bp



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 19, 1988

Mr. Connie M. Krivanek  
Petroleum Exploration of the  
Southern Rockies  
609 Meseta  
Farmington, New Mexico 87401

Dear Mr. Krivanek:

Re: Alkali Creek Federal 1-5 API # 43 037 31237 SEC 5 T39S R24E

Mr. Bonner of State Lands and Forestry has forwarded your letter of February 5, 1988, to our office.

Enclosed are copies of the plugging procedure and the completion report for the above referenced well. Note that on the back of the completion report, it indicates no drill stem tests were run.

If we can be of further service to you, please do not hesitate to contact our office.

Sincerely,

Vicky Carney  
Well Records

Enclosure  
cc: Dianne R. Nielson  
Ronald J. Firth  
0511S-35